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ABSTRACT

The publication is intended to convey a perspective on career education, emphasizing recognized instructional organization, processes and procedures, and concerns. The first chapter discusses the career education concept generally, as an instrument for curricular analysis and as a bridge between the classroom and the community. The second chapter presents a philosophical framework and a curricular design for success oriented learning, and the third chapter delineates the goals and objectives, characteristics, and problems and concerns related to individualization of instruction. Organizing for successful instruction is the topic of the fourth chapter, which presents overviews of team teaching, large and small group instruction, independent study, flexible scheduling, and evaluation. Chapter 5 provides a curricular framework for the career development sequence of career education (focusing on career exploration), in which subject areas are coordainted through the occupational cluster concept and goals are structured by reference to eight skills categories. Chapter 5 also summarizes four phases of the career development sequence: career awareness, career orientation, career exploration, and early career preparation. Chapter 6 provides a management design for the systematic development and implementation of the career exploration phase; steps are outlined for system planning and management, design analysis and development, and implementation and assessment. (Author/AJ)

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CAREER EDUCATION:
A DIFFERENTIATED APPROACH
TO IMPROVEMENT OF INSTRUCTION

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DEPARTMENT OF PUBLIC INSTRUCTION
DOVER, DELAWARE

PREFACE

The development of the Career Education concept has emphasized the importance of meaningful and relevant learning opportunities. It has further necessitated a thorough review and analysis of the content of subject matter in order to define more specifically the essential aspects and qualities of relevant and meaningful education. One significant factor, however, has consistently emerged: Development and acceptance of the value and dignity of work along with preparation for the occupational world and a satisfying career must become a vital instructional goal of the educational program.

A revised program of instruction is initiated in early childhood and the elementary grades through career awareness activities, attitudinal formation and appreciation of work, basic educational and skill development, and human relations; facilitated in the middle and junior high school through career orientation, exploration, and discovery along with continued study and acquisition of knowledge, skills, and attitudinal modification; and refined in the senior high school through indepth career exploration and job preparation with structured relationships between and among academic subjects, educational and employability skills, and career selection. Further technical training, specialization, and professional preparation thus become the educational responsibility of postsecondary institutions.

Career Education attempts to incorporate into a total instructional system organizational factors and aspects of the teaching-learning process which contribute toward the successful and effective functioning of the overall educational program. The concept of SUCCESS-ORIENTED

INSTRUCTION focuses on individual learning within the context of a group-related and mass-organized school environment. This approach begins with an appraisal of each individual. It attempts to structure a teaching-learning relationship which enables the students to pursue their studies through a variety of approaches and utilizes the abilities and resources of several teachers toward the accomplishment of more effective learning.

The information contained in this publication undertakes to convey to the reader a precise yet comprehensive perspective of CAREER EDUCATION with emphasis on recognized instructional organization, processes and procedures, and concerns. Success-oriented learning with provision for individualization constitutes one process; relationship of academic to occupational/vocational education with emphasis on constructive attitudinal and career development comprises both organizational processes and procedures; involvement of youth program activities as an integral part of instruction demonstrates an organizational procedure and concern; the articulation of curricular activities and interdisciplinary emphasis on learning provide concern for all factors--organization, process, procedure, and evaluation; and utilization of personnel for more effective educational attainment through diversified organizations such as team teaching and differentiated staffing encompasses an operational procedure.

CAREER EDUCATION represents a conceptual approach through which the application of successful and experimental ideas and practices can be formalized into a total instructional system. The dynamics of Career Education indicate a prelude to change and quality performance on the part of both teachers and students. The challenge to improve is a valid and constant factor.

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I

A PERSPECTIVE ON CAREER EDUCATION

The concern for change and improvement is a constant factor confronting all aspects of education. A plethora of innovations, pilot studies, and program developments have emerged on the scene under the guise of instructional strategies, methods, models, technologies, and systems. These innovations and developments have evolved with such rapidity and diversification that the already overburdened classroom teacher has had little time to become better informed or adapt to the continuous inundation of educational terminology and approaches.

Social and political reverberations such as concern for the disadvantaged, equal educational opportunity, human relations, and student rights have beset the teachers and administrators and have frequently occupied as much time and involvement as the fundamental regard for curricular development and the teaching-learning process. There is apparent need to understand these trends and changes and to cope with them in a more effective manner. To minimize the impact and consequences of change on educational institutions is a basic concern of the profession. More significantly, however, is the necessity to capitalize on the progress resulting from change so as to improve the instructional process and the resultant student accomplishments.

CAREER EDUCATION

The emergence of the Career Education concept has provided an opportunity to develop a rational perspective on educational change and establish a vehicle through which the prevailing program of studies and curricular activities can be more readily analyzed and assessed. The overall intent

is to structure a more meaningful bridge between the learning activities of the classroom and those of the outside community.

Career Education is neither a new concept nor a finite frame of reference. It is operationally characterized by the following selected statements:

1. Career education involves all students.
2. Career education provides learning activities which are success oriented.
3. Career education emphasizes the development and refinement of educational knowledge and skills--reading, writing, arithmetic, and human relations.
4. Career education introduces the student to the occupational world through exposure to career opportunities and cooperative work-study programs.
5. Career education enables the student to develop abilities and interests through guidance and counseling services.
6. Career education stresses awareness in the elementary grades, exploration and orientation in the middle grades, and indepth exploration, development and preparation in the senior high grades.
7. Career education provides special learning programs for the disadvantaged and handicapped students that are occupationally oriented and related to their specific needs.
8. Career education emphasizes diagnosis of abilities and placement of students according to educational performance.
9. Career education encourages individualization of learning and improved student performance.
10. Career education represents an articulated program of study that enhances involvement of the total community in the educational process.
11. Career Education provides continuous orientation and exploration of the occupational world through the cluster concept.

12. Career education enables every student to develop his abilities and interests so that useful employment and further educational development are practical goals.

13. Career education utilizes the resources of many persons to relate classroom experiences in a meaningful and relevant relationship to the everyday economic world.

14. Career education recognizes the need to identify the successful aspects of instruction and constructively develop learning opportunities to assure continuous improvement of the teaching-learning contingency.

15. Career education fosters the belief that the more options available to students the better they will be prepared to accept the civic, economic, political, and social responsibilities of adulthood.

These fifteen preceding statements reflect some of the more recognizable characteristics of the CAREER EDUCATION concept. It is most important to realize that Career Education is an emerging approach to educational improvement and modification. The form and substance can thus vary in accordance with the objectives and methods of instruction. One important consideration, however, should always be apparent: CAREER EDUCATION IS A MEANS BY WHICH STUDENTS ARE PROVIDED LEARNING EXPERIENCES TO IMPROVE EDUCATIONAL KNOWLEDGE AND SKILLS THROUGH EXPOSURE TO ASPECTS OF THE OCCUPATIONAL WORLD. All educational experiences become interrelated and directed toward the realization of the major goal of career development and preparation.

ORGANIZING FOR CAREER EDUCATION

The impact of social and technological change can be observed throughout the fabric of our democratic and capitalistic institutions. Education as a social institution has been constantly subjected to the vicissitudes of prevailing external forces. The fundamental challenge to those persons concerned with the decision-making process is how to

accept the elements of external change and translate them into systematic patterns for organizing the instructional program to achieve worthwhile educational goals. This challenge becomes a formidable undertaking since the structure of the schools and the instructional programs have remained fairly stable since the advent of the Sputnik Age. Innovative ideas and structure of the instructional framework in the schools have undergone minimal metamorphosis in accepting and implementing successful innovative practices and procedures. The concern relative to CAREER EDUCATION is the development and gradual implementation of an instructional system which recognizes successful practices and implements sound innovative programs: The organized meshing of the proven with the promising.

Process for Change. Once it has been fully recognized and accepted by the administrators and teachers that the concepts and components of CAREER EDUCATION are vital to the development of quality and meaningful instructional programs, certain processes should be followed in the determination of the changes necessary for the complete implementation of a Career Education Instructional System. The complexity of curricular development and implementation requires that appropriate and coordinated leadership and cooperation be provided. The following procedures serve as recommended guidelines for undertaking systematic curricular modification and improvement:

A. Prepare the entire staff through orientation and inservice education sessions as to the concept of Career Education and its implications.

B. Discuss aspects of Career Education which have thus far been developed and implemented in other school districts.

C. Relate the overall characteristics of Career Education to the present program of instruction in the school district or building.

D. Provide the encouragement by which Career Education can be initiated on either a comprehensive or pilot basis.

E. Develop a plan by which curriculum development and Career Education implementation are interrelated on an elementary through secondary continuum.

F. Establish a timetable to assure the accomplishment of definable and measurable objectives and activities.

G. Involve representatives from the business and industrial community along with those from government, education, and the lay community--including both parents and students.

Planning and Implementation. Once the guidelines and procedures have been formulated and accepted by the persons directly participating, it then becomes apparent that a series of steps for more thorough planning, development, and implementation should be designated. The succeeding factors should be considered as the essential steps to be formulated:

A. Organization of a Steering and Leadership Committee to provide direction and commitment to Career Education.

B. Determination of the functions of the Committee in respect to planning, designing, implementing, and evaluating activities.

C. Development of public awareness through involvement of representatives from concerned and interested segments of the community.

D. Formulation of an operational definition and identification of essential components to develop a better understanding of the implications for Career Education.

E. Assessment of the present educational program in order to determine the following:

1. Goals and Objectives
2. Instructional Activities
3. Evaluation Processes
4. Areas of Success
5. Extent of Offerings
6. Career Opportunities
7. Cooperative Education
8. Community Relations
9. Program Flexibility
10. Individualization

F. Determination of available community resources and opportunities so that Career Education represents a comprehensive approach toward providing meaningful educational experiences.

G. Development of a comprehensive plan for a Career Education program with reference to these concerns:

1. Educational Goals
2. Instructional Objectives
3. Instructional Activities
4. Youth Activity Program
5. Performance Criteria
6. Guidance Activities
7. Placement Procedures
8. Staff Development Procedures
9. Process Evaluation

H. Implementation of Career Education Instructional System through cooperative involvement and commitment of staff.

I. Development of an overall plan for assessment and evaluation to determine and report progress and to provide input for modification and further improvement of the Career Education Instructional System.

A thorough plan for the development, implementation, evaluation, and refinement of the components of the Career Education Instructional System is essential to assure continuous progress and improvement. It is most important that the aspects of the comprehensive plan capitalize on the successful practices clearly evident throughout the educational

program. The approach to planning and implementing Career Education is not one of replacement but modification to focus more concretely on meaningful and relevant academic and occupational knowledge, skills, and attitudes.

Evolutionary Imperatives. The constant public concern for educational reform and instructional improvement has become part of the modus operandi in the Twentieth Century. In some respects, this emphasis for improvement has not been totally accepted by the administrators and teachers. There is need for a revitalization of the purposes of education in view of the complexities of contemporary society. The college preparatory emphasis of education has enabled the populace to become so credential oriented that vocational study and work with the hands have fallen into disrepute. A utopian society without work has existed in theory, but has never been implemented in reality.

The system of Career Education undertakes to prepare students so that a balance in the curriculum can be attained. A servo-mechanic and cybernetic society requires both brainpower and manpower--quality work with the hands results from quality use of the brain. Development and application of educational knowledge and skills along with exploration of occupational interests comprise a fundamental goal of Career Education. Career development and success relate to all students, whether they enter employment after graduation or pursue further study leading to a technical or professional career. The program of studies in the schools must provide the necessary learning experiences for all students so that adequate preparation for career selection and employment will become more than a hollow vestige of educational jargonese.

To implement and provide for a successful system or program of Career Education, these evolutionary imperatives need to be considered:

INSTRUCTION--Gradual change from teaching orientation to learning accomplishment. Emphasis on student achievement rather than teacher performance as transmitter of information. Teacher talk still comprises the mode of instruction. Career Education approach stresses active participation and involvement of students with teacher as professional resource person and manager of learning. All instruction may not be equally effective for every student.

LEARNING--Emphasis on the acquisition and utilization of knowledge and skills through problem solving and creative learning activities. Application of skills to career interest and development. Minimal concern for memorization of facts and irrelevant information. Student assumes more responsibility for performance through individualization of learning.

DIAGNOSIS--Provision for the determination of abilities and performance levels so that instructional activities are designed to provide successful learning experiences for every student. Development of techniques for identification and placement of students so that career interests are encouraged and fostered through selection of appropriate instructional materials.

GUIDANCE--Change from academic guidance and counseling to career assistance and concern for the individual development of every student. Guidance activities and services should be closely related to the goals and objectives of the instructional program. Such purposes facilitate both the guidance and learning function.

MOTIVATION--Stress on instructional activities which result in successful experiences for all students and provide a challenge to the more capable. Interest and acceptable performance by the students serve as a motivational tool for further improvement. External determination and selection of learning activities may stimulate but fail to motivate student achievement. Career Education attempts to motivate students toward greater learning through the relevancy of educational program to career development and occupational understanding.

GOALS--Develop goals so that all persons concerned are aware of the global and general intent or purposes of the educational program. The overall goals provide the frame of reference for the structuring of the instructional objectives. Although goals are interchangeable and variable, they should be analyzed to determine their attainment possibilities. Undue time, however, should not be directed toward the attempted validation of goals. Measurability becomes a factor regarding objectives.

OBJECTIVES--Identify basic concepts and information essential for each subject or course, then construct instructional or performance objectives to be realized. These objectives should be so written as to describe the expected performance at the end of instruction and be identifiable with general goal statements. Instructional objectives should relate only to expected or pre-determined intellectual outcomes or skill development. Objectives should not include processes or procedures for attaining acceptable level of performance, since several alternatives are possible regarding instructional processes or procedures and limitations should not be imposed.

Instructional or performance objectives relate to the expected learning accomplishments of students and do not pertain to the activities of the teacher. These activities are established through the development of management objectives. Teaching processes and procedures should be set forth in the substance of management objectives.

The purpose of instructional objectives and the resultant learning activities for students is to communicate concretely the intent of the teaching-learning association. The initial construction of measurable objectives should be undertaken on a limited and selected basis and expanded through usage. It is much better to develop five measurable instructional objectives rather than a plethora of irrelevant and poorly structured statements.

Well-structured objectives are necessary to convey the fundamental purposes of education. The basic concern relates to the acquisition of knowledge by the students and the development of decision-making capabilities. This approach emphasizes the development of intellectual skills with attitudes and appreciations as worthwhile outcomes from the successful accomplishment of this overall purpose.

ACTIVITIES--Select learning activities which are appropriate to the achievement of the instructional objectives. These learning activities should range from concrete to abstract and simple to complex. The intent is to provide several options and examples so that every student can attain success within his ability and interest level. Concern for individualization of learning should be provided within the framework of the group relationship. Activities designated for all students should be exploratory or introductory and achievable regardless of ability. The more difficult or complex the intented outcome from activities, the more consideration should be given to individual and independent study.

The learning activities provided for students should be of such nature as to assure the study of information which contributes to the acquisition of knowledge and development of intellectual skills. Formation of acceptable attitudes and appreciations evolve from the focus on intellectual development and progress.

Development of motor skills is also vital to the success of Career Education, since exposure to work is an essential component. Vocational or occupational study provides a vehicle through which skill acquisition and intellectual refinement can be interrelated. Career awareness, orientation, and preparation serve as functional purposes toward the meaningful coordination of academic and occupational/vocational learning activities.

To cover the textbook can no longer be accepted as the ultimate goal of the classroom teacher. A multitude of learning resources must be provided for the activities directed toward the development, acquisition, and application of knowledge and skills.

CYCLING--Develop instructional program and activities so as to provide for continuous learning progress for every student. This consideration requires that learning activities and the assessment of progress must be highly individualized and that units of study be so structured as to provide for the development of concepts and the translation of information into knowledge. The units of study

become quite selective and of short duration so that the conceptual approach becomes apparent and that information studied results in the development of generalizations about the areas under study. The mere accumulation of facts without generalized reference is of questionable value in a society information rich.

The concept of cycling stresses the importance of continuous progress along with alternatives for learning should a student perform below a level of expectancy, leave the school environment, or re-enter at a later date. Learning thus takes on a differentiated approach necessitating the evolvement of a variety of instructional units and learning activities. It is no longer advisable to have every student study the same material every day during the school year; therefore, learning activities must be structured to accord the opportunity for students to succeed.

The emphasis on cycling not only encourages the development of mini-courses and a variety of learning activities of varying degrees of difficulty but conveys to the administrators and teachers the imperative to identify, review, and analyze more systematically the nature and organization of classroom activities. To provide stereotype teaching-learning situations represents a travesty of intellectual magnitude

DIPLOMA--Assess the significance and meaning of the high school diploma in terms of the goals of Career Education and the emphasis on life preparation. The diploma attained its apex of importance through the college preparatory nature of secondary education. The Career Education concept enhances academic and vocational preparation through the coordination of all learning activities.

The goal of secondary education, however, should not be college preparation but career preparation. The nature and requirements of a career determine the educational level or technical proficiency necessary for entry and successful progress. The program of studies and the learning activities are related to the career interests and plans of the students without categorical reference to academic, general, or vocational preparation.

The diploma was intended to represent a standard of accomplishment or satisfactory accumulation of a given number of credits as described by the ubiquitous Carnegie Unit. A variety of standards, course contents, and teacher evaluation procedures have placed dubious value and relevancy on the comparability of the diploma.

There is considerable interest in the recognition of the diploma as a document signifying fulfillment of the basic educational requirements with CERTIFICATES OF PROFICIENCY being issued to students for levels of performance in specific or designated areas of study. This procedure re-emphasizes the value of performance or instructional objectives in determining level of proficiency or accomplishment.

The concern for Certificates of Proficiency practically eliminates the need for Certificate of Attendance for students with learning difficulties. Level of performance thus becomes the indicator of progress.

ACCOUNTABILITY--Establish procedures for a simplified yet comprehensive approach to instructional accountability. Instructional accountability pertains to the methods employed by administrators and teachers for establishing educational needs, goals, objectives, learning activities and evaluation techniques, and determining the extent to which these factors have been realized.

Teachers are thus accountable for the overall development and structure of the instructional program for which they are professionally responsible. Goals, objectives, and learning activities must be developed so as to provide learning options for the students. Individualization of learning becomes a prime concern toward the achievement of fundamental instructional objectives. The structure for the learning environment constitutes a management function of both administrators and teachers.

Teachers should neither be held accountable for the lack of achievement of some students nor responsible for those who are unable to complete their schooling. They are accountable only for the extent to which they provide the structure and opportunity for effective learning. This view can be accepted only after the teachers have attempted to prescribe and direct learning activities for all students. Guidance and counseling

are essential to this view. Placement of students in the back of the room or relegating their learning activities to a level of mediocrity constitues a departure from this view and necessitates serious omission of responsibility for effective and worthwhile instruction.

The school and the teachers can not be all things to all people. The acquisition of knowledge, the development and utilization of skills, and the refinement of cultural values should constitute the fundamental purposes of education. Society should not expect the schools to be an enclave for social disruption, a bastian for maladjusted and incorrigible youngsters, an institution for social reform and psychological deviants, and a recreational resort for entertainment and avowed freedom without restraint and self-control.

The schools can best function and the administrators and teachers be held accountable when the purposes of education are defined in terms of expected and functional intellectual and occupational/vocational skill development and application. Career Education necessitates an appropriate perspective.

EVALUATION--Essential to the evolutionary imperatives is the need for evaluation. Evaluation of student progress as well as evaluation of the successful attainment of the overall goals of education is vital as part and parcel of accountability. Internal evaluation pertaining to the instructional program and external evaluation relative to the relationships of the components of the system to each other are necessary.

The techniques used by the teachers to determine student progress are of critical import. Variability and comprehensibility of methods for evaluating or assessing levels of performance must be thoroughly considered and implemented. A grade from a single test or the checkmarks received from homework are minimal criteria for determining student progress. A variety of criterion-referenced tasks and performance activities constitutes an essentiality.

Continuous progress reflects the concern for self-evaluation on the part of the students and the need for daily feedback from the teachers as to student progress and overall performance. The communication of grades, marks, or averages every six or nine weeks does not facilitate progress and creates an air of suspicion and doubt on the part of both students and

parents. Notification and reinforcement of achievement and progress on a continuous basis create a learning environment of mutual concern, responsibility, and cooperation. The process of individualization becomes a more positive reality under such a relationship.

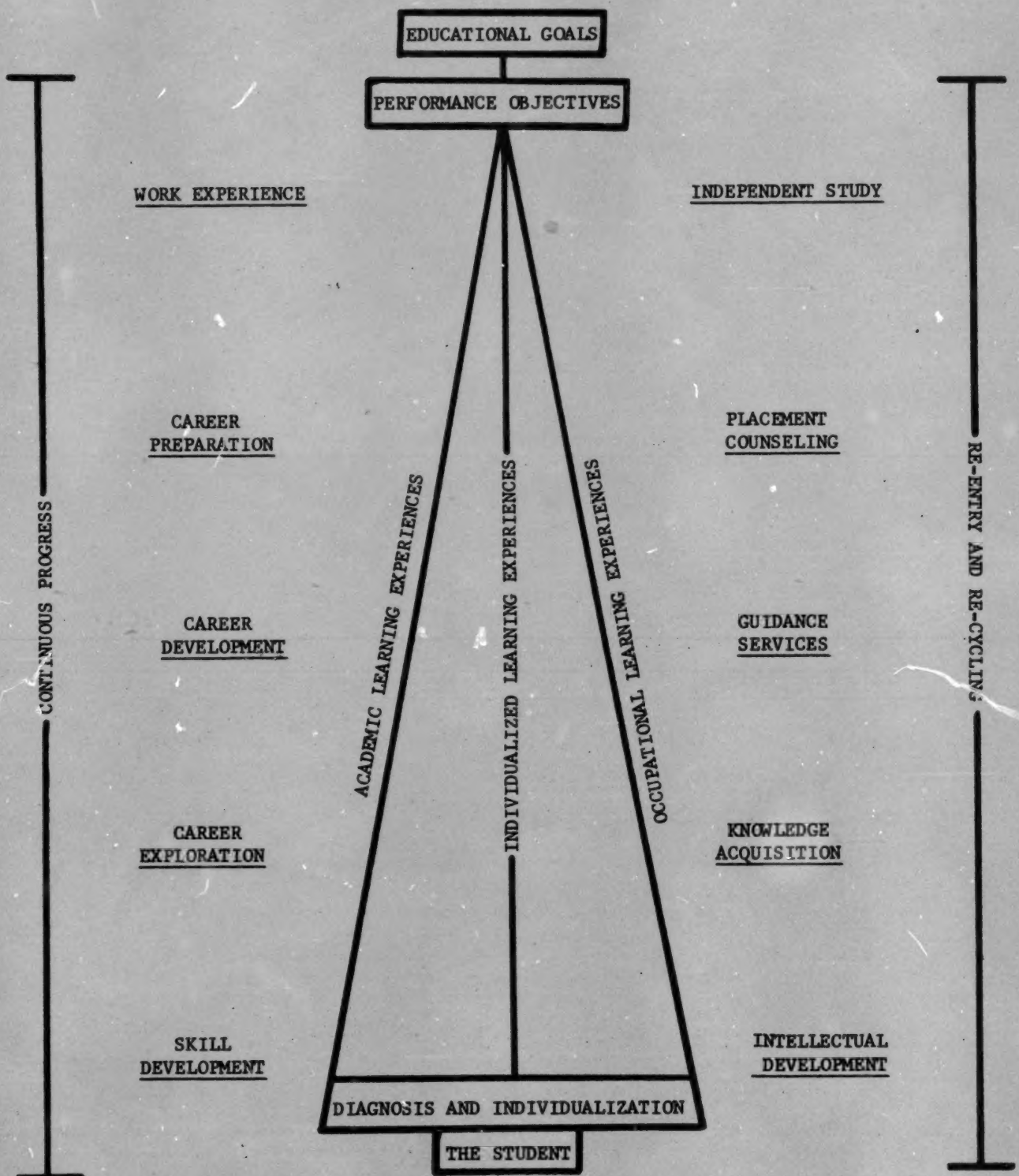
These preceding imperatives represent vital factors which must be thoroughly considered in the development, implementation, and refinement of the concept and components of CAREER EDUCATION. They are construed as being evolutionary since they reflect viewpoints which have been challenging responsible administrators and teachers for sometime. The extent to which these evolutionary imperatives are accepted and constructively implemented will strongly determine the adaptability of the school system to meet the changing educational and occupational needs of the majority of youth.

A SCHEMATIC REPRESENTATION

One of the fundamental precepts of Career Education is that it should not be a new structure superimposed on the prevailing elementary, middle, and senior high schools but that it expand upon the successful practices and qualities in evidence in the schools. These practices and qualities thus comprise a representative model from which a CAREER EDUCATION INSTRUCTIONAL SYSTEM can be developed with a minimum of evolvement away from the less successful instructional practices.

The schematic representation on the next page conveys the fundamental aspects of Career Education. The STUDENT constitutes the educational focal point for the instructional process. DIAGNOSIS of student abilities and determination of performance levels comprise the initial process for the structuring of a learning program emphasizing INDIVIDUALIZATION. The

CAREER EDUCATION INSTRUCTIONAL SYSTEM



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coordination of ACADEMIC and OCCUPATIONAL LEARNING through an INDIVIDUALIZED LEARNING EXPERIENCES essential for the implementation of Career Education as a basic EDUCATION GOAL. In order to provide for CONTINUOUS LEARNING PROGRESS on the part of every student, regardless of entry level or ability, it is imperative that the curricular activities be designed to achieve stated PERFORMANCE OBJECTIVES. The development of these objectives is essential for relating LEARNING ACTIVITIES to the overall EDUCATIONAL GOALS. The degree of success attained by each STUDENT determines the need for further DIAGNOSIS, RE-CYCLING of LEARNING ACTIVITIES, and INDIVIDUALIZATION of program.

The concept of Career Education provides for a renewal of INTELLECTURAL DEVELOPMENT through the processing information so that KNOWLEDGE ACQUISITION and SKILL DEVELOPMENT become interrelated and structured processes resulting from coordinated staff planning. Throughout the LEARNING EXPERIENCES of students CAREER EXPLORATION, DEVELOPMENT, and PREPARATION represent meaningful phases. These phases are enhanced through systematic and relevant GUIDANCE SERVICES and PLACEMENT COUNSELING which provide assistance and direction for the students relative to INDIVIDUALIZATION of learning program, recommendations for INDEPENDENT STUDY, PROGRAM PLACEMENT, and consideration for COOPERATIVE WORK EXPERIENCE. The ultimate goal of a Career Education program is to provide the most appropriate learning experiences for all students as they move toward a designated career objective or else prepare themselves for an eventual career selection.

II

SUCCESS ORIENTED LEARNING

In order to assure the development and implementation of Career Education programs which provide for meaningful and appropriate instruction, it becomes the responsibility of administrators, curriculum specialists, supervisors, and teachers to structure learning activities and experiences that focus on the releasing of the intellectual and creative potentialities of individual students. Instruction must be adapted to the varying ability levels of each individual without concern for the "Golden Mean" or "Sacred Average." The emphasis on SUCCESS provides both the philosophical and practical reference from which individualized learning activities become a realistic goal of education.

A PHILOSOPHICAL FRAMEWORK

Success-oriented learning constitutes neither a euphemistic concept nor an unattainable goal within the contemporary instructional setting. It represents a conscientious and thorough approach to meet more adequately the intellectual needs of self-responding and self-directing individuals in a dynamic and challenge-laden society. The concept of SUCCESS-ORIENTED LEARNING thus relates to individual performance and progress within the context of a group designed and mass organized instructional environment.

The basic goal of success oriented learning is the maximum realization of the intellectual abilities and career interest of the individual. This goal does not preclude concern for the social, emotional, moral and physical development of the individual student. It does assume, however, that the primary function of the school, as an agency of society, is to

provide a favorable learning environment wherein the intellectual qualities of each person can be nurtured in a productive manner. Learning activities in the cognitive area are constructed to assure this fulfillment; there is also planned concern for the affective and psychomotor aspects of learning as applicable to the complete realization of Career Education. An interactive network of curricular experiences is essential to accomplish intellectual development--COGNITIVE; foster attitudes, interests, feelings, and appreciations--AFFECTIVE; and provide for "hands-on" experience and physical aspects--PSYCHOMOTOR.

One of the hypothesis of success-oriented learning is intellectual progress and positive achievement tend to perpetuate acceptable affective dispositions. Successful learning experience tends to bring about the development and expression of constructive aspects and favorable results. The substance of knowledge must be acquired through the structured and planned instructional program in order for affective aspects to function in a viable context. Psychomotor aspects of learning are closely aligned with the intellectual development of students since the mental propensities greatly influence the direction and depth of physical attainment. This point of view indicates that the concept of CAREER EDUCATION must be so formulated as to provide a balance among the acquisition of knowledge, development of intellectual skills, development and utilization of the occupational/vocational skills, preparation for career alternatives, and the formation of attitudes tantamount to responsible conduct and satisfactory educational experiences. The nature of learning and the learning process become essential concerns on the part of those directly responsible for the development and consequences of planned learning activities.

A CURRICULAR DESIGN

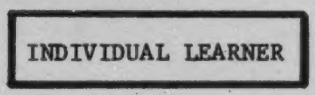
A primary emphasis is the development of a curriculum that provides each individual with learning opportunities which enable him to progress at his own rate. This curriculum consists of well-articulated phases and levels of achievement based on understandings of ideas and concepts. An individual does not progress to the next phase or level until he has acquired a basic understanding of the concepts which constitute the fundamental structure of the subject or area of study. The extent of understanding of the foundational aspects of an area of study is determined through teacher evaluation and self-evaluation by the individual student. Retention of factual content becomes secondary to the success of each individual. His ability to grasp ideas and understand processes as commensurate with intellectual development is of paramount concern.

Success oriented instruction stresses the importance of curriculum conscious administrators and teachers. There is need for a comprehensive view of the total educational program along with an understanding of the role and contribution of each area of instruction toward the development and achievement of the individual. Understanding the structure and the raison d'etre of various instructional areas or subjects constitute two vital prerequisites for the systematic formulation of a career education design. Dr. Jerome Bruner expressed the former idea in The Process of Education when he stated that the curriculum of a subject should be determined by the most fundamental understanding that can be achieved of the underlying principles that give structure to that subject. Success oriented instruction requires an understanding of the principles of curriculum development and learning processes in conjunction with knowledge of the nature and structure of instructional materials. Successful

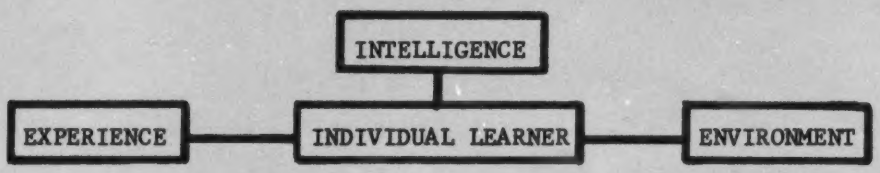
instruction results from knowledgeable and concerned teachers. Anything less than this perpetuates a moribund and fragmented learning situation.

A sense of accomplishment is an important property of acceptable mental health development and fundamental to the realistic implementation of Career Education. Learning as a journey through formal and informal stages of life should focus on and enhance areas of success. This success must be realized through the performance of the individual in accordance with the challenges appropriate to his or her abilities and interests. The learning path to CAREER EDUCATION must be neither too easy nor too difficult.

The Instructional Framework. A curricular design for success oriented learning as fundamental to Career Education begins with the individual LEARNER as the focal point.

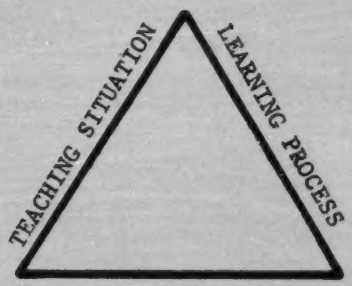


The individual learner enters the classroom influenced by his previous environment, intelligence, and related educational and social experiences--all of which determine the extent to which the learning process and teaching situation will foster his capacity to become a more rational and self-directing individual.

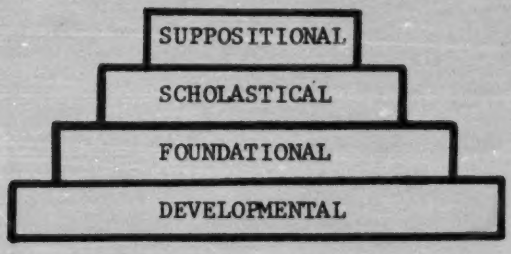


Learning constitutes the reorganization and reconstruction of mental experiences based either on a developmental or articulated sequence of

learning activities. The teaching situation enhances a learning process which stresses these ideas rather than endeavoring to cover either a predetermined number of pages in a textbook or a multitude of isolated and unrelated facts. Implicit in this thought are the "courage to exclude" and the "imagination to include" concepts. The instructional relationship may be designed as a triangular perspective with necessary interaction between and among the three components.



The structure of learning activities provides for progress from the concrete to the abstract as students achieve success at the various levels of instructional organization. These learning activities are arranged in a sequential, nongraded approach commencing with basic skills, and simple, concrete concepts, and progressing continuously toward complex, abstract and advanced phases of learning. Levels of instructional organization are as follows:



The DEVELOPMENTAL level represents the presently designated remedial aspect of instruction. It is assumed herewith that deficiencies in learning experiences and environmental background cannot be appreciably remedied. The individual student must be accepted where he is and a developmental learning program implemented to bring his achievement up to or near the foundational level.

The FOUNDATIONAL level constitutes the basic elements of instructional organization which provide the individual student with the rudimentary learning activities necessary for developing acceptable communication, grasping numerical relationship, understanding humanistic aspects of science, preparing for career and occupational choices, and for formulating values essential for improvement of cultural and human relationships.

The SCHOLASTICAL level emphasizes the learning activities necessary for preparation to enter institutions of learning beyond the secondary school instructional setting. This term merely replaces the prevailing academic concept and emphasizes the career preparation theme.

The SUPPOSITIONAL level involves the highest aspect of instructional organization. This level represents the complex and abstract activities leading to hypothetical and theoretical formulation. Such an instructional environment encourages the individual student to uncover and discover ideas, question accepted practices, formulate tentative hypotheses, pursue alternate approaches of inquiry, develop meaningful concepts, and construct verifiable generalizations.

These four levels comprise the instructional framework within which the individual student achieves success through learning activities adapted to his ability and interest potentialities. The curricular design encompassing the briefly described instructional levels does not adhere to the

lock-step grade level arrangement prevalent in contemporary educational enterprises. A sequential, nongraded, conceptual approach constitutes the internal arrangement of success oriented learning activities.

Within the overall scope of the four instructional levels, various phases of learning are structured in order to assure continuity of intellectual and personal development. The number of achievement phases within each level depends upon the subject or instructional area. For example, the following phases could conceivably comprise the FOUNDATIONAL level of instruction:

I. Exploratory Phase

II. Basic Phase

III. Essential Phase

IV. Enrichment Phase

V. Theoretical Phase

Each of the projected phases might be defined as follows:

> Exploratory--determining the achievement level of the individual in respect to the ideas, concepts, and skills he has previously learned. This avoids needless repetition.
>
> Basic--providing learning activities which are considered to be fundamental to a rudimentary understanding of the subject field or instructional area. This phase develops the concrete ideas and concepts. Emphasis is on the big ideas rather than minute and pedantic aspects.
>
> Essential--developing learning activities which are considered necessary for broader application of the fundamental ideas, concepts, and skills. This phase represents the transitional aspect from simple and concrete learning situations to more complex and abstract challenges. It requires the structuring of learning activities which are necessary for preparation to pursue an occupation or career and to undertake college-level instruction.

Enrichment--providing advanced learning activities which encourage in-depth and independent study.

Theoretical--formulating research and experimental activities which enable the individual to discover and refine the ideas, concepts, and generalizations constituting the fundamental and underlying principles of the subject or field of study.

The phases through which an individual progresses depend upon the extent to which he attains success with the learning activities structured for the initial and each succeeding phase. Although only a minimum of instructional time would be devoted to the exploratory phase, the time involvement for additional phases would relate to the standard established for the INDIVIDUAL LEARNER. Some students may never progress beyond the BASIC phase within the FOUNDATIONAL instructional level, while a few students might be able to encounter SUCCESS with the THEORETICAL phase at the SUPPOSITIONAL level.

The concept of success oriented learning emphasizes the ideas of individual student learning and individual student responsibility. The extent to which the two ideas are interrelated will greatly influence and enhance the learning success attained by the individual student.

An instructional framework should provide a setting which focuses on the individual as a total being. The ultimate objective of the educational program would be behavioral outcomes reflecting meaningful mental, social, moral, and physical experiences; however, there is foremost concern for the development of the intellectual abilities of the students with the other aspects of behavioral outcomes evolving from successful learning activities. Facilitation of learning thus becomes the essential function of the classroom teacher. All students must be prepared to function more intelligently in an ever changing and challenging CAREER ORIENTED SOCIETY.

The Instructional Climate. Success oriented learning is the aspect of the instructional process which encourages individualization within a mass school arrangment. Variation in human ability and interest require alternatives for providing learning activities to realize more satisfactorily the career aspirations and plans of the students. The development of a curricular design emphasizing phasing within designated instructional levels offers a learning sequence wherein the individual can progress at his own rate. The degree of success attained serves as the guide for the succeeding phases or levels of instruction. A re-cycling process becomes a vital option to those for whom the instructional activities have proved less successful, while a more challenging learning approach becomes essential for those who successfully accomplish the instructional tasks.

Research studies and empirical data have proposed the need for a closer examination of the nature of learning and the learning process. The basic hypothesis by Bruner that any topic can be intelligently taught to any child at any age should revitalize curricular thinking and planning. Reports of the continuous studies by Piaget should also provide a framework of curricular reference in respect to the structuring of ideas and concepts which gradually develop from the simple, concrete stage to the more complex, abstract stage. The studies and findings of Bruner and Piaget should have complementary value rather than differential substance. Each has contributed significantly to the revitalization of concern for the learning process. The relationship between the findings and implications of Bruner and Piaget depends upon the instructional situation the classroom teacher and the curriculum specialist are endeavoring to structure.

Learning takes place within the individual student as he is able to associate the ideas being studied with what he has previously experienced.

This concept of learning necessitates a systematic approach to instruction through the nongraded and sequential organization of learning activities and experiences. A climate for effective and successful learning has to be structured. The following sequence represents one approach to the development of success oriented instruction:

1. Formulation of an operational philosophy which states and implements concretely the individualization of learning concept.

2. Development of an administrative and teacher commitment to the idea of individualized learning with the continuous emphasis on success being paramount.

3. Statement of educational goals as the general reference for the development of specific objectives.

4. Establishment of comprehensive instructional objectives which embrace kindergarten through grade twelve. Continuity of learning activities should be emphasized within the framework of these comprehensive objectives.

5. Identification of the significant contributions of each discipline or area of study to the successful progress of the individual as part of career preparation.

6. Determination of the concrete instructional objectives for each discipline or area of study. These objectives should be stated so that behavior or performance can be measured.

7. Organization of instructional levels within each discipline or area of study on a kindergarten through grade twelve basis. These instructional levels may be divided according to school areas; for example, elementary school, middle school, and senior high school.

8. Development of performance objectives for each phase of and instructional level.

9. Determination of the ideas, concepts, facts, and generalizations to be developed with each phase of the instructional level.

10. Organization of the content, skills, and processes in a sequential pattern to assure continuity of learning experiences.

11. Formulation of the skills and intellectual processes necessary to facilitate the successful learning of content.

12. Provision for alternate approaches to the learning of content in order to provide successful experiences for every individual.

13. Development of variable teaching methods and organizational arrangements so that flexibility is assured.

14. Formulation of criteria for systematic evaluation on an individual and continuous basis to determine the extent to which instructional objectives have been realized.

15. Development of self-evaluation techniques in order that the individual learner might realize his successful progress at any time.

16. Organization of learning activities which provide options for the individual in respect to re-study, independent study, and advanced study.

17. Formulation of a feedback process for the modification and improvement of the instructional program on a regular and systematic basis.

These recommended procedures reflect a sequence of steps necessary for the organized development of the instructional program. The extent to which they are followed, modified, or expanded depends upon the ultimate curricular goals of the administrative, supervisory, and teaching personnel. A structured approach to assure successful learning experiences is an important aspect of a Career Education Instructional System.

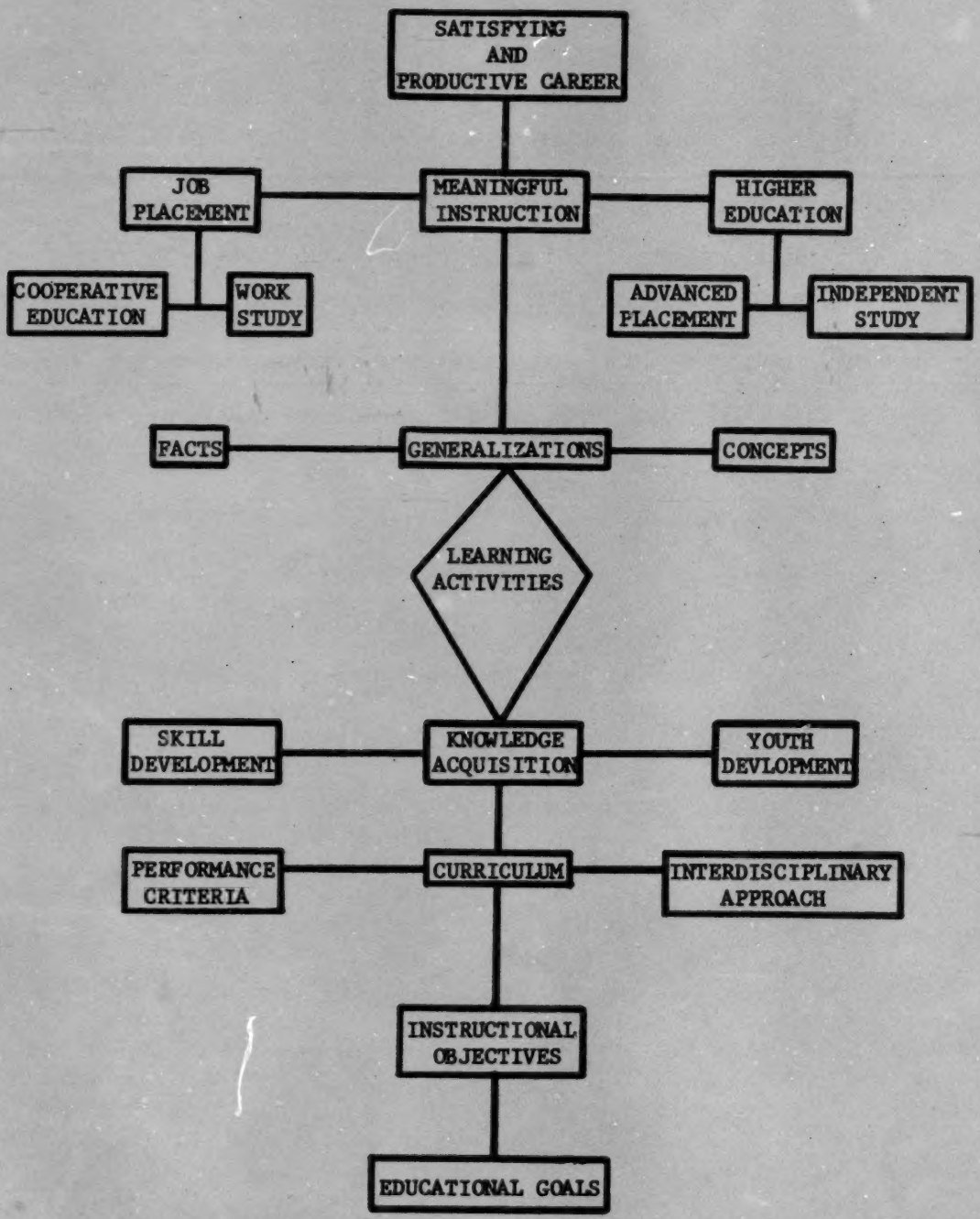
A SCHEMATIC REPRESENTATION

The fundamental outcome of success oriented learning as part and parcel of the Career Education Instructional System is the immediate and continued emphasis on a SATISFYING AND PRODUCTIVE CAREER as schematically conveyed in the diagram on the next page. This basic outcome is premised on the assumption that a thoroughly devised curricular approach has been developed and implemented. Statement of EDUCATIONAL GOALS and INSTRUCTIONAL OBJECTIVES comprise the initial two phases leading to the development of the CURRICULUM or INSTRUCTIONAL PROGRAM.

The CURRICULUM as part of the CAREER EDUCATIONAL INSTRUCTIONAL SYSTEM recognizes the necessity for the construction of PERFORMANCE CRITERIA based on an INTERDISCIPLINARY APPROACH. Relevancy is provided through concepts, themes, and information from the subject area to assure career awareness, development, and preparation. Aspects of educational and occupational knowledge and skill are interrelated to provide a planned program of CAREER EDUCATION.

Three important facets are considered in the formation of the LEARNING ACTIVITIES essential to INDIVIDUALIZATION and SUCCESS ORIENTATION. These three facets have been identified as KNOWLEDGE ACQUISITION, SKILL DEVELOPMENT, and YOUTH DEVELOPMENT. The latter facet relates to the active and responsible involvement of the students as an integral part of the instructional activities. This involvement focuses on the fulfillment of the four basic purposes of youth program development: Career Understanding, Civic Competency, Social Awareness, and Leadership Training. All of these facets then serve as input for the sequencing of the LEARNING ACTIVITIES.

CAREER EDUCATION INSTRUCTIONAL SYSTEM



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The LEARNING ACTIVITIES relating to the accomplishment of the various OBJECTIVES consist of information categorized as FACTS and CONCEPTS which serve as the substance for formulation of GENERALIZATIONS about academic and occupational learning as synthesized under the concept of Career Education. Coordination of academic and occupational/vocational studies leads to more MEANINGFUL INSTRUCTION on the part of all students with alternatives being provided. At the senior high school level, for example, students possessing the career goal of immediate employment or JOB PLACEMENT are provided with the opportunity for WORK STUDY or COOPERATIVE EDUCATION arrangements. For those students requiring HIGHER EDUCATION to achieve their career goals, learning alternatives are thus provided through INDEPENDENT STUDY or ADVANCED PLACEMENT studies.

None of the ideas encased on the diagram represents a revolutionary educational concept. The value of the conceptual scheme to the school practitioner is that the ideas have been part of the instructional program for some time; the contribution of the design to CAREER EDUCATION is that it portrays a total and interrelated approach toward a diversified view of contemporary education.

III

INDIVIDUALIZATION OF INSTRUCTION

The concern for the progress of the individual student is vital to the concept of success oriented learning; therefore, it is significant that each student be provided with worthwhile learning opportunities which result in a high frequency of successful experiences. A movement toward individualized instruction accords the option to provide appropriate learning activities for each student.

Individualized instruction can be developed within a group related situation. The basic difference is that instruction is directed toward the ability level and pacing range of the individual student rather than oriented toward the group, regardless of the number comprising the group. A second factor is that learning activities are goal oriented or performance based. Goals or objectives for the instructional program may be developed for an entire group of students; however, each individual pursues the attainment of the specific objectives through activities which are relevant and challenging to his ability and interest level. The sequencing of learning activities which traverse a broad range of choices and reflect an increasing level of difficulty is essential to the implementation of INDIVIDUALIZED INSTRUCTION. Assigning the same learning activities to all students is a forbidden process.

GOALS AND OBJECTIVES

It is becoming more and more apparent that the statement of educational goals and the construction of performance objectives are not only vital to the determination of student achievement but essential to the development of an instructional program emphasizing individualized learning. There is little evidence, however, to indicate that the schools

support curricular activities that are performance based. Practically all professional educators and many self-styled educators openly support the concept of continuous achievement and excellence. Successful educational achievement on the part of all students has not been the sine qua non of the teaching fraternity. Time and subject matter as epitomized through the Carnegie Unit have been a preoccupation and tended to limit flexibility of instruction. The development of the INDIVIDUALIZATION OF INSTRUCTION approach and the emphasis on continuous educational progress based on performance have been projected as hopeful alternatives to the contemporary constraining influence of the TIME CRITERION.

Goals. The beginning stage in the development of an individualized approach as part of the Career Education Instructional System is the formulation of goals or goal statements. GOALS are thus defined as statements that propose the end toward which educational effort is directed. Goals usually reflect these characteristics:

1. Broad and general in intent
2. Open-ended time frame for achievement
3. Non-measurable in terms of output
4. Vague and interchangeable
5. Achievable through learning activities relating to specific performance objectives

Educational goals are important to the overall development of an instructional program and should be determined in a discretionary manner. The one significant factor is that a goal should be attainable and not be the euphemistic statement of unattainable phrases. A caution, however, is communicated regarding the development of Goals: An inordinate amount of time should not be expended on the finalization of educational goals. Efforts should be avoided concerning the trivialities of statements. Primary concern is with the significance and attainment of the goals.

A simplified process should be incorporated in analyzing goals to assure that those selected are acceptable. The structure of the objectives and the learning activities will appreciably determine to what extent goal statements have been educationally realized.

Objectives. In order to provide the basis for improved student performance, there must be a revitalization of the curriculum process with the emphasis on achievement of some reasonable standards by the students at various levels. One of the purposes of the achievement factor is to convey the assurance that educational performances justify the input. The initial step in the concern for improved student achievement is the construction of precise and clearly defined instructional objectives. The concern is not to change or merely re-write present objectives, but to state them in terms which can be both observed and measured.

Objectives may be classified as management, instructional, educational, performance, and behavioral. From the viewpoint of INDIVIDUALIZATION, reference is herewith to performance objectives only. OBJECTIVES are precise statements which specify expected responses, performance, and outcomes which can be measured as accurately or objectively as possible. Objectives are intended to provide necessary direction to the identification and selection of learning activities and appropriate resources. Each objective should contain definite components which include the following:

1. IDENTIFICATION--necessary to determine to whom the objective is directed or who is to be the doer.

2. ACTION--description of the behavior or performance expected to occur.

3. CONDITIONS--description of the requirements or essential qualities necessary for achieving the objective.

4. ACTIVITY--meaningful and useful learning unit or study relevant to the objective.

5. CRITERION--description of the acceptable level of performance the student must acquire to meet the objective.

Assessment and evaluation are also essential factors in reference to the criterion component, since a process for determining or acknowledging the successful level of performance is vital. These factors frequently present problems due to the fact that irrelevant test items are used by teachers to determine level of performance. There is need for agreement between what is expected and what is studied and assessed. The statement of specific performance objectives endeavors to eliminate the guessing game or surprise contest between the teachers and student.

It has also been stated by the advocates of behavioral and performance objectives that too frequently there is overdue concern for describing procedures on the part of both student and teacher for achieving the objective. The objective should contain only the expected performance--several alternatives should be available as to procedures or processes; however, these should not be included in the objective. The inclusion of unnecessary words can also result in an objective that is too restrictive and fails to convey the intent of learning.

It is most imperative that performance or behavioral objectives evolving from the goals of education be established for every instructional area of the school program. The development of performance objectives will provide a more concrete basis for measuring the extent to which instruction -- teaching and learning -- has achieved designated objectives and the extent to which each individual has progressed according to his abilities and his understanding of the content and processes comprising the area of study. The construction of PERFORMANCE OBJECTIVES

assumes a practical and functional educational role--the description of the expected learning accomplishments of the instructional setting in respect to reliably observable performance. Performance objectives are not designed to remain isolated or apart from the learning situation; they constitute the integral aspect of curricular organization and effective individualized instruction. Without specifically formulated performance objectives, there can be only minimal assessment of the achievement by the individual learners.

CHARACTERISTICS

The concept of individualized learning has been on the educational scene for a long time. Few teachers, however, have attempted to implement the ideas within the confines of their classrooms where thirty to thirty-five students have usually been heterogeneously assigned. Irrespective of previous situations and experiences associated with individualization, several characteristics have become apparent as to its consideration:

1. Each student or individual should be able to learn at his or her own rate.
2. Each individual requires learning opportunities which lead to successful experiences.
3. Individual differences should be minimized rather than maximized by group instructional processes.
4. Learning activities should be of single dimension as well as sequential with each individual beginning at an appropriately diagnosed level and progressing toward higher levels of difficulty and performance.
5. Opportunities for alternate learning activities should be provided for individuals who need either concrete or abstract study. Provision should be made to handle the individual who progresses very slowly and who re-enters school at various times.

6. Learning problems should be continuously diagnosed and identified with appropriate activities provided to overcome the difficulties and to assure some degree of successful accomplishment.

7. Performance objectives provide the frame of reference for the personalization of learning activities.

8. Every individual is capable of mastering various aspects of subject matter when the kind and quality of instruction are appropriate to his abilities and interests.

9. Learning activities and resource materials of considerable variety should be either acquired or produced to reduce the amount of direct teacher intervention in the instructional process. The concept of learning manager rather than dispenser of information should be assumed by the teachers.

The fundamental ideas associated with the development and implementation of INDIVIDUALIZED INSTRUCTION are few in number and simple in application. Vital to success are teachers who commit themselves to the intellectual development of each individual and are aware of the broad range of differences among every group of students. A second basic idea is the development and provision for a variety of constructive learning activities designed to reach well-defined objectives. The third idea is necessity of leadership and support from the administrative staff. Few innovations succeed without the full acknowledgement and encouragement of the responsible administrators.

PROBLEMS AND CONCERNS

The emphasis on individualization as part of the Career Education Instructional System does not convey a panacea for the eradication of teaching and learning difficulties. It merely provides an opportunity to structure learning activities for each individual while attempting

to meet the common educational needs of all students. A formidable challenge is presented regarding the most appropriate process by which teacher-paced and group-oriented instructional programs can be balanced to provide for more student-paced and individual-oriented learning situations. Such a transition presents some problems and concerns. The following statements reflect these issues:

1. Significance to educational improvement of attempting to individualize instruction.
2. Relationship of teaching techniques to the increasing production of performance objectives.
3. Value of undertaking to individualize all instruction even though learning is an individual process.
4. Relationship of individualization to the variety of available materials and instructional technology.
5. Conseqences of developing learning strategies and adapting learning principles to a program of individualized instruction.
6. Consideration of discipline, class control, and motivation within a group related environment.
7. Adaptation of teachers to individualized techniques of instruction.
8. Value and consideration of inservice education training sessions.
9. Significance and consequences of pilot and selective implementation or total involvement.
10. Relationship of diagnosis and guidance services to individualized instruction.

The list of problems and concerns might continue ad infinitum without acceptable resolution, unless administrators and teachers are willing to rationalize the need for individualization of instruction. Permanent changes in attitude must be initiated by the administrators and teachers, for the students can not be expected to foster the ameliorating impetus. The emerging concept of CAREER EDUCATION accords

an incomparable opportunity to revitalize every educational program. Individualization of instruction basically represents an attempt to recognize the existence of individual difference by providing the most appropriate learning experiences possible to assure successful educational progress.

Specific Considerations. The problems and concerns indicated in the preceding section emphasize the imperative for administrators and teachers to give specific consideration to several factors in the development of the individualization of instruction approach. These considerations should include the following:

1. Appropriateness of educational objectives
2. Nature of performance objectives
3. Relevancy and appropriateness of the content being provided
4. Sequence and variation of learning activities
5. Variety and substance of multi-media learning resources
6. Nature and variety of instructional techniques on part of the staff
7. Nature and organization of class scheduling and student grouping
8. Organization of instructional staff
9. Nature and appropriateness of evaluative and self-evaluative techniques and procedures
10. Relevancy of content and skill development to Career interests of students
11. Appropriateness of record keeping to report continuous progress and determine student achievement at any given time.

Summation. Two important aspects of INDIVIDUALIZATION must be constantly reviewed. These aspects pertain to the determination of the objectives and the materials by which the objectives are to be achieved. Both teachers and students can determine the objectives and materials; therefore, teacher-specified objectives and teacher-selected materials can be interrelated with student-prepared objectives and student-selected materials to be used in successfully completing the learning activities. The emphasis of individualized instruction is on improved learning on the part of the students and less but quality teaching on the part of the instructional staff.

AN INDIVIDUALIZED SCHEME

The individualization of instruction with the resultant concern for individualized learning progress constitutes one of the formidable challenges to American education. In spite of the many accomplishments of the schools, the implementation of an articulated program of individualized learning still represents a major shortcoming of quality education. The traditional aspect of the school facilities and the sterile learning environment generated through mass education and teacher-designated group instructional processes have tended to perpetuate a structured rote learning atmosphere, which frequently is more stultifying then intellectually stimulating.

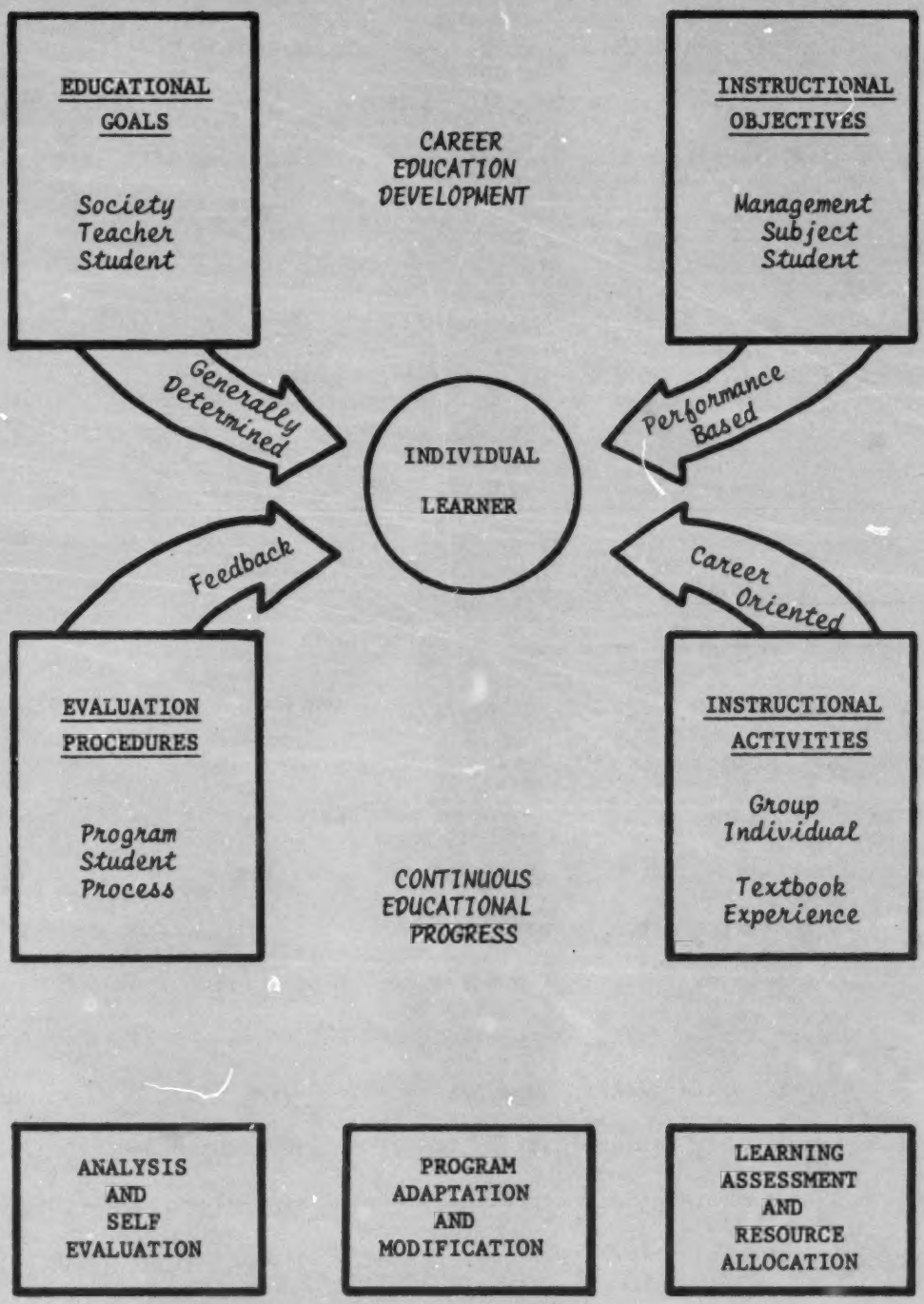
The emerging and responding concept of Career Education accords both the opportunity and challenge to overcome some of the avowed deficiencies of contemporary education. The success of Career Education as a meaningful educational and performance goal depends on the extent to which the variables or components of the instructional setting are

modified and improved. Individualized instruction is one of the most vital components to cope with the ever changing intellectual needs and career interests of students.

The diversified and complex nature of human beings and their intellectual behavior necessitate that learning resources be adapted to meet their individual interests and abilities. The schematic representation on the next page attempts to convey in a graphic fashion one possible curricular design for developing an individualized approach to learning.

Central to the successful development and implementation of an individualized program of instruction is the INDIVIDUAL LEARNER. The LEARNER is schematically portrayed within a circle, since the educational program and instructional process should evolve toward the realization of individual needs and abilities. The impact of teaching may be reflected at any point around the mythical circle. The extent of learning may also be hypothetically considered due to the fact that information from the teacher may be systematically processed or unsystematically rejected. The essence of INDIVIDUALIZED LEARNING is the provision for activities which can be meaningful absorbed and rationally accepted by the student. Learning thus becomes the frame of reference. The effectiveness of teaching depends on the contribution it makes to successful and purposeful learning.

In the structuring of a program for INDIVIDUALIZATION, the initial step in the curriculum developing process is the statement of EDUCATIONAL GOALS. These goals are statements of broad direction and intent which are general and timeless and are not expected to be measured in terms of specific achievement or definitiveness. These goals, since they reflect



INDIVIDUALIZATION OF LEARNING

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the direction to be undertaken by the professional and lay community to accomplish the educational needs of students, may differ somewhat from one setting to another; they are not, therefore, necessarily mutually exclusive. EDUCATIONAL GOALS on a district or school basis are paramount since they establish the framework for the construction of INSTRUCTIONAL OBJECTIVES, the structure of INSTRUCTIONAL ACTIVITIES, and the development of EVALUATION PROCEDURES--all of these four elements comprise an interactive and congruent network which is interdependent in design and operation. The GOALS developed should be related to these three essential groups: SOCIETY, TEACHERS, and most importantly, the STUDENTS. The extent to which each group contributes to the development of the educational goals and their expectations reflected depends upon the community and professional involvement.

The emerging emphasis on behavioral and performance objectives and the demand for more precise measures have increased the concern for the writing of better INSTRUCTIONAL OBJECTIVES. These objectives are defined as statements of expected accomplishments or outcomes which can be measured within a specific time frame, under stated conditions, so as to determine level of performance. INSTRUCTIONAL OBJECTIVES may be categorized as relating to MANAGEMENT activities, SUBJECT areas, and STUDENT performances. Management objectives relate to the teacher and pertain to the organization, function, and structure of the instructional setting in order to provide an appropriate learning situation. Subject area objectives represent the major aspects of each subject or area of study which designate the comprehensive frame of reference

for determining student performance. These objectives thus provide a check for validation of the specific progress toward the realization of educational goals and determination of the performance of the total educational program. Student objectives, however, comprise the heart of the instructional program. These objectives are constructed so as to measure specific accomplishments of the individual student within a definite time in respect to stated conditions. Student objectives may be devised to relate to minimums, percentages, averages, or terminal outcomes or expectations. As indicated on the schematic representation, all instructional objectives should be performance based.

Once the INSTRUCTIONAL OBJECTIVES have been determined, the appropriate ACTIVITIES to accomplish the specific objectives must be designated. The learning activities may be developed and stated in terms of both group and individual performances. They may be derived from textbooks and appropriate instructional materials or based on the experiences of the students. These activities should be sequential as to levels of difficulty and be so structured as to provide variability and study options for individual students or groups of students with related interests and abilities. Under no circumstance should all students be required to perform all activities provided as part of the instructional unit. This practice negates the basic purpose of the individualized learning approach. Essential to the selection of activities for the students is the diagnosis process. A determination of their strengths and weaknesses and their previous levels of performance is critical to the success of the individual learner in respect to the concept of continuous progress. Wherever possible, instructional activities should be oriented to the career interests and abilities of the students.

A critical and essential aspect of individualized instruction (on the part of the teacher) and individualized learning (on the part of the student) are the EVALUATION PROCEDURES. Evaluation herein defined refers to the systematic procedures through which information is collected, analyzed, and interpreted to determine the extent to which the stated objectives have been accomplished. Evaluation thus relates to the program, student, and the instructional or learning process. Within this context, evaluation in education is much more comprehensive in that there is the necessity to measure the broad range of objectives--management, subject, and student. The development of performance-based criteria and the availability of a variety of techniques for appraising performance indicate that evaluation is a continuous and vital procedure. In order to assure that evaluation is an integral part of program operation and not the end product, it is also essential that self-evaluative techniques be utilized on the part of both teachers and students. There is need for constant feedback as to the effectiveness of all components of the instructional system.

The four preceding components thus far described are the core of INDIVIDUALIZATION under the diversified and differentiated concept of CAREER EDUCATION. They do not, however, operate in isolation. The three additional components at the bottom of the schema permeate all aspects of the Individualization of Learning construct. There is constant concern for PROGRAM ADAPTATION AND MODIFICATION resulting from the feedback from EVALUATION and the effects of ANALYSIS and SELF EVALUATION. The success of a systematic approach to Career Education and the improvement of instruction depend upon the nature of LEARNING ASSESSMENT and the procedures for RESOURCE ALLOCATION.

IV

ORGANIZING FOR SUCCESSFUL INSTRUCTION

It has been stated with considerable alacrity that variety constitutes an important element of human existence; yet modern public school organization has endeavored to limit both teacher and student variety through rigid and unyielding patterns of standard class sizes, fixed teacher-pupil ratios, uniform length of class periods, identical subject matter for all students regardless of abilities, equal time periods for all subjects irrespective of degree of difficulty, subjective evaluation and defenseless marking systems, immeasurable objectives, and courses of study which are usually dull and restrictive rather than interesting and variable. Variety of educational opportunity is vital to the expansion of Career Education and student understanding and achievement in a complex and rapidly changing world.

The emphasis on individualization of learning requires a differentiated approach to instruction on the part of teachers. This approach recognizes the need for a school system so organized as to utilize more advantageously competencies of the teaching staff in order to improve student options for learning. The concept of team teaching with the components of large group instruction, small group discussion, independent study, and variable scheduling has been on the educational scene for over ten years; however, few administrators and teachers have either organized systematically or implemented cohesively the comprehensive and interrelated components of team teaching. Effective experiences with team teaching provide the variability for developing the diversified and differentiated aspects of CAREER EDUCATION. The basic concerns of team teaching apply primarily to the senior high school, although some aspects are applicable to the middle or junior high school.

TEAM TEACHING OVERVIEW

A recent report from the United States Chamber of Commerce set forth thirteen reasons for the schools having so many problems. Among these thirteen reasons are the following suppositions:

1. Schools have a limited number of clear, measurable objectives for defining instruction.

2. Schools do not determine what students already know through diagnostic procedures; thus many resources and much energy are wasted on irrelevant and redundant materials.

3. Schools retain students at a given grade level with minimal provision for learning options or continuous progress.

4. Schools have inflexible time allotments for both teaching activities and learning opportunities.

5. Schools provide for a rigid deployment of the teaching staff and fail to use students as teaching resources.

6. Schools require a high degree of non-productive or non-instructional chores of the teaching staff.

7. Schools fail to make wise and intelligent use of labor saving and effective instructional resources such as programmed learning, individualized instruction, audio-visual devices, and learning technologies.

8. Schools support programs of learning which have little relation to the real or occupational world or to the concept of career development.

9. Schools tend to evaluate students on test scores rather than a variety of techniques and criteria which are performance based.

The extent to which the preceding suppositions are valid depends upon individual school situations and the variability provided by the administrative, supervisory, and instructional personnel. One factor, however, encompasses most of the suppositions; the concept of team teaching and its multiple ramifications for Career Education.

Operational Definition and Purposes. Team teaching has been frequently defined as a cooperative activity in which each person does what he or she is most capable of doing in the instructional setting. Such a definition recognizes individual differences among the instructional staff while fostering a spirit of cooperation and group accomplishment toward improved student progress.

Team teaching is not merely a pedagogical method and does not consist of two or three teachers in the self-contaminated classroom or school causing simultaneous confusion and contributing to concerted chaos. It is not unstructured, unplanned, unsystematic, and uncertain. It can not be effective and stimulate improvement in learning unless the major components--large-group instruction, small-group discussion, independent study and flexible schedules--are present and interrelated. To improvise team teaching through the rotation of teachers tends to foster misunderstanding as to the overall planning, objectives, and evaluation. Effective team teaching requires the exchange, criticism and evaluation of ideas; the formulation of articulated programs; the development of self-analysis; the encouragement of student self-direction; and the emphasis upon continuous evaluation and measurement. To propose anything less constitutes an exchange and stimulation of haphazard ideas and instructional ignorance. In essence, team teaching does not advocate doing more of what is presently being done, but emphasizes the quality aspect of education through opportunity to plan, prepare, present, manage, and evaluate instruction.

Great oration has arisen as to the need for recognizing individual differences among students, yet sporadic communication has ensued relative to recognizing these differences among the professional staff. We live

in a society technologically-oriented and specialization-conscious; however, the educational segment has not deemed it necessary to implement or more adequately encourage specialization among the professional teachers. The specialist in medicine and industry does not work alone--education should be able to stress the same philosophy with equal success.

Fundamental to the development of teacher morale is the participation in and performance of educational activities that enhance experimentation, creativity, espirit de corps, group planning, satisfaction, personal and financial rewards, improvement of instruction, and increased achievement in learning. Team teaching provides the means by which these things can be realized and the concept of Career Education implemented as part of the educational program.

It seems rather redundant and monotonous to confront five classes a day, five days a week for the customary time allotment of fifty minutes per session. There is nothing sacrosanct or infallible about the prevailing equal class periods or fixed class sizes; yet inflexible scheduling, standard class structure, and compartmentalization are still the modus operandi in too many of our elementary and secondary schools.

Three major purposes have been established concerning the concept of team teaching:

1. Improvement of Curriculum--a team of teachers can concentrate on curriculum problems so that new information and old content can be assimilated and taught with meaning and viability.

2. Professionalism of Teaching--a team organized on the basis of complementary teacher abilities can emphasize its strengths and minimize its weaknesses. The team can also provide valuable and constructive in-service advantages to all members. With a flexible schedule the teachers will have time to structure their thoughts and to confer with each other during school hours. Better utilization of staff will provide funds to employ teacher aides so that professional people can perform professional tasks.

3. Individualization of Instruction--students who are permitted to learn in the formalized structure of large groups, the more permissive structure of small-group discussions, and the relative freedom of independent study can mature into self-reliant and self-directed learners. The degree of freedom provided should be commensurate with the ability and maturity of the students as they responsibly accept this freedom.

Advantages. The three purposes established in the previous section can also be recognized as fundamental advantages of team teaching. In addition, team teaching provides the professional framework to achieve the following:

** Better staff utilization and involvement.

** Variety of presentations and learning experiences.

** Articulation of instruction within a subject field, between subject fields and among academic, vocational and general instructional areas.

** Development of cooperation and school espirit de corps.

** Awareness of and responsibility for curriculum change.

** Encouragement of both teacher and student leadership and followership.

** Expansion and improvement of supervision and teacher-supervision planning.

** Better understanding and utilization of principles of psychology in learning.

** Improvement of teacher planning during the school day due to flexible scheduling.

** Development of student self-discipline, self-direction and responsibility.

** Peer-group cooperation and recognition.

** Professional in-service education through planned interchange of ideas and structuring of educational programs.

** Non-graded and sequential learning approach and opportunities for student independent study and research.

** Teacher specialization with coordination and understanding of total perspective of subject area as well as expansion of areas of broad knowledge in related fields.

** Utilization of special staff personnel--librarian, counselor, visual-aid coordinator, art and music teachers--in the improved learning environment.

** Continuous curriculum development, revision and evaluation.

** Individualization of instruction within a more reasonable and flexible framework.

** Utilization of outstanding abilities and knowledge possessed by community leaders.

** Elimination of non-teaching tasks through the use of paraprofessionals, aides, and clerical assistants.

** An instructional program that fosters viability.

Weaknesses. Although both the advocates and the critics of team teaching have found certain weaknesses inherent in the structure, these factors tend to result from the nature of the individual participants rather than from the nature, structure, and philosophy of team teaching. These major shortcomings deal primarily with attitudes of team members along with lack of understanding of team teaching. Among these are the following:

** Hesitancy to experiment and try something new.

** Emergence of prima donna teachers.

** Reluctant participation and contribution to team effort.

** Failure to utilize variety of learning experiences to provide for individual differences.

** Stereotyped planning, presenting, and evaluating by teachers.

** Inability to function flexibly within a flexible structure.

** Lack of clear, precise, free and open communication.

** Failure to understand and implement the interrelated components of team teaching.

** Reluctance to develop leadership as well as failure to accept the role of director or manager of learning.

** Dividing the instructional responsibility equally rather than encouraging use of special talents and sharing the total responsibility.

** Stifling of individual initiative and creativity.

Inadequately prepared personnel, insufficient planning and structure, monotonous presentations, unimaginative and mediocre learning activities, poorly motivated and inefficiently achieving youngsters are existent in the schools. Such weaknesses require concerted and diligent efforts to improve gradually the instructional and learning atmosphere. The preceding listings can be minimized by the formulation of a cooperative philosophy, utilization of complementary strengths, and the development of a more systematic organization on the part of all educational personnel.

LARGE GROUP PRESENTATION OR INSTRUCTION

This significant phase of team teaching involves an instructional setting wherein as many as 100 or more students are assembled for presentations and general discussions. The fundamental premise underlying large-group presentations is that it capitalizes upon the teacher's ability to talk, present, demonstrate and perform with the aid of multimedia resources. Through LGI, team teaching endeavors to improve upon this productive aspect of teacher talk.

TEACHER TALK does not simply connote unstructured verbalism and rambling--it proposes to achieve these three purposes: Motivation, Dissemination, and Assignment.

A. Motivation--careful selection must be given as to content that will interest most of the youngsters regardless of ability level. It is to be remembered that the subject is not covered in LGI, since this is the task of independent study. The presentation should be enlivened by a multi-media approach using audio-visual aids. Teachers present only a broad framework of reference and avoid the minute emphasis upon isolated facts. Illustrations of various kinds can provide the guideline for stimulating more indepth study. Individual questioning of students does not constitute an accepted practice in LGI--questions are used only as a means for eliciting group response or suggesting provocative lines of inquiry for small-group discussions.

B. Dissemination--this suggests the presentation of ideas, concepts, hypotheses or generalizations from sources not readily available to the students. It is most imperative that content in textbooks, reference materials, and films be avoided as part of the dissemination process, inasmuch as it is the responsibility of the students to study and research these available sources.

C. Assignment--guide sheets and study guides are prepared for student use. In the LGI setting, the teacher establishes the framework for each area of study in terms of what the students are expected to cover, what materials are available, where these can be obtained, and the ways they can immediately evaluate the extent of their learning. The essential purpose is to improve upon misunderstandings frequently a part of conventional class assignments. Failure to provide clear and varied assignments can hamper the value of large-group instruction.

Whether a staff member is used or the presentation involves a film, television program, or resource person, the fundamental aim is to provide the students with quality instruction. It is most apparent that complete directions be a vital aspect of the LGI. The large-group

instruction must provide the framework for student inquiry and investigation through provocative questions. The following procedures are recommended as guidelines:

** Assessment of student past achievement and interests.

** Presentation of information that follows planning, structuring, and outlining.

** Utilization of visuals that are original and unique. Symbolic representations foster interest and aid in developing imagination.

** Development of provocative and challenging statements that guide youngsters in small-group discussion and independent study.

** Domination of teacher is an important part of LGI. Domination by the best instruction possible.

** Structuring of materials that have meaningful relations to previous learning and career development.

** Creation of group sizes that are commensurate with facilities and staff suggestions.

** Variation of length of presentation as situation dictates.

The preparation for large-group presentations requires thoughtful planning and creativity. There should be simplicity of explanation, illustration, development of meaningful relations, and the raising of issues for further discussion and study. A most important factor is flexibility in format as to particular needs and situations.

This component of team teaching has been described as the PRESENTATION-ASSIMILATION phase that includes eight major types of teacher-student activities conducted in a large-group setting. Among these are the following: INTRODUCING, MOTIVATING, EXPLAINING, EXPLORING, PLANNING, REPORTING and DIGESTING, GENERALIZING, and EVALUATING. These activities may occupy as much as forty percent of student time.

SMALL GROUP DISCUSSION

It is significant at this point to re-emphasize that team teaching is not mere method, but a means toward curriculum improvement based upon the concept of interrelatedness. The three major components must be closely coordinated and interlaced so as to provide progression--deduction and induction--from the general to the specific and vice versa. There must be concern as to what is appropriate for large-group presentation, small-group discussion, and independent study in conjunction with the intellectural processes deemed necessary to provide more meaningful learning experiences.

Small-group discussion (SGD) enhances this interrelatedness, in that approximately 12-18 students and a teacher meet together to exchange ideas, form concepts, develop generalizations, and foster traits of leadership and self-direction after having experienced part of the activities of large-group presentation and independent study. Team teaching is within the framework of good instruction when the three components are present. It is without form and substance when any of the three basic parts is missing.

Small-group discussion should not be organized to regurgitate materials presented in the large-group setting or function in the framework of oral quizzing erroneously called "discussion" in concentrated sessions in the conventional classroom. The essential purpose is to provide students with the opportunity to communicate intelligently with each other and to develop respect for various opinions in the process. A necessary role for the teacher is to instruct in the processes of group interaction and in the art of group communication and to serve

as a consultant, counselor, and group evaluator. The teacher enters the discussion to correct gross errors and misinformation, to stimulate interchange of ideas, to clarify issues, to encourage active participation on the part of tacit students, and to assist the group in its self-appraisal. Students must be aware of the variegated and variety of roles they will play in this important phase of team teaching and learning. If circumstances permit, group membership should be changed periodically to facilitate the learning process and to improve interpersonal and social relations.

Teachers in SGD must resist the temptation to lecture or recapitulate LGI presentations. It is also vital that SGD should not serve as the setting to test directly student knowledge--the subject is not covered in its entirety in the small-group setting. To assure continuous evaluation, the teachers must listen attentively and record the quantity and quality of individual participation and contribution to the group. In addition, they should observe interpersonal relations and analyze sociometric data that have been assimilated.

Small-group discussion strives to permit the students to participate directly in the learning process. This is further facilitated by developing student leadership within the group. The teacher must also be a leader, resource person, coordinator, summarizer, model participant, socratic catalyst, and evaluator if small-group discussion is to be successful. The teacher creates and fosters an atmosphere wherein discussion can develop.

Advantages. A few of the advantages attributed to effective small-group discussion are the following:

** Encourages active peer group discussion and interaction since it is student-centered.

** Stimulates free inquiry and open-mindedness on the part of both students and teacher.

** Promotes student self-discipline, self-direction and responsibility.

** Fosters understanding of group processes and reflects decision-making role of small groups.

** Permits emergence and exchange of ideas within a democratic framework.

** Fosters discretion and intelligence as to leader selection and development.

** Improves teacher responsibility for management of learning activities.

** Provides active experiences in democratic processes.

** Encourages intellectual and social development.

** Develops in the teachers and increasing awareness of student thoughts.

** Initiates resourcefulness and creativity on the part of the teacher.

** Provides for self-evaluation and self-analysis.

Disadvantages. There are certain disadvantages attributed to small-group discussion which evolve due to inadequate timing and thoughtless structuring. Among the more obvious disadvantages are the succeeding:

** Consumes time if guidelines for questions and inquiry are not developed.

** Contributes to an exchange of ignorance if preparation and planning are not in evidence.

** Encourages rambling on the part of teacher and students when proper understandings or processes and interrelationships are not clearly defined.

** Stifles initiative and discussion when monopolized by a few selected students or teacher.

** Hampers evaluation in terms of conventional standards. Evaluative measures must become an integral aspect of the teaching-learning process.

** Promotes uncertainty and confusion among some youngsters if the background and experience for small-group activity have not been acquired.

** Encourages mediocrity if group membership becomes static and leadership fails to emerge.

Many teachers have problems with small-group discussions because they seldom possess the knowledge and experience to employ effective group dynamics techniques. They usually abuse the small-group setting by either lecturing or by dominating the students. Practice and experience on behalf of both teachers and students can result in student-centered discussions. LEARNING BY DOING IS THE KEY PHRASE.

INDEPENDENT STUDY

One of the strong points demonstrated by team teaching is that students can learn considerably on their own initiative. In fact, it has been reported that youngsters retain only forty percent of the information from the traditional curriculum, retain fifty percent of what they hear and say, and retain seventy percent of what they say and do. This tends to substantiate the need for independent study.

Independent study is considered to be the HEART of the team teaching arrangement, since in this process the students endeavor to cover the subject, learn how to learn (deutero), and develop responsibility for the acquisition of knowledge. It is no longer a problem to teach everything within a particular subject--it is an impossibility! So one must utilize opportunities for youngsters to learn more through independent study.

It becomes necessary that the abilities of each student be considered and evaluated before pursuing independent study. The level of maturity and responsibility will influence the degree of guidance and supervision of learning activities. Continuous evaluation is important for determining the behavioral changes in individuals so as to provide the basis for scheduled and unscheduled time. Unscheduled time pertains to independent study time outside the self-contained classroom.

There is a distinction to be made between individual and independent study. Individual study is usually short-range and more under the direct supervision of the teacher, whereas independent study is usually long-range, more self-directed, and under a minimum of supervision. The role of the team teacher is to guide and direct the youngsters from individual to independent study. There must be a gradual transition from scheduled classwork to unscheduled study--too much freedom too rapidly can result in chaos and confusion. FREEDOM WITH RESPONSIBILITY IS A FUNCTIONAL GUIDELINE.

The goal of the teacher in IS focuses upon becoming a resource person to his students, for the assignments given in LGI are structured in such a framework. Unless teachers change their traditional roles in regard to independent study, flexible schedules, technical aids to learning, and learning resource centers can not be judiciously utilized.

Large-group instruction (LGI) should be directly related to independently-arranged study. Teacher talk must consider homework assignments, inasmuch as group discussion evolves out of independent study, and LGI should be evaluated by what is being accomplished in IS. Some contend that creative homework is the backbone of independent study.

Planning regarding IS activities should consist of precise, understandable and concrete instructions to students as to what skills and knowledge are essential, desirable, and enriching, and the means to obtain these--reading, writing, listening, viewing, discussing, and using equipment.

Learning activities are arranged in a sequential, nongraded approach beginning with basic skills and knowledge, and progressing continuously toward complex, abstract and advanced stages of learning. There must also be concern for recycling aspects should youngsters not possess basic skills and knowledge.

Students should be encouraged to study and research individually much of the unscheduled time; however, small group study is recommended for both review and advanced learning. The only qualification is that teacher talk and domination be absent from the learning scene when IS is being undertaken.

Teachers not only analyze and organize the learning experiences in a different manner from the practices in conventional classes, but develop study guides and outlines for student reference and self-direction. A multi-media approach is important to the development of a variety of learning activities. To foster a textbook-centered study will stifle the valuable experiences associated with independent study.

The conventional teacher role emphasizes and rewards conformity--the team teaching role as part of IS emphasizes conformity only insofar as basic skills and knowledge are concerned--there is always the encouragement to progress beyond the minimum essentials. It is the goal of team teaching to approximate closely INDIVIDUALIZATION OF INSTRUCTION THROUGH INDEPENDENT STUDY.

In the area of independent study, the following constitute some basic realizations:

** Students can learn much on their own.

** Many students can assume responsibility and direction.

** Some students can be completely trusted while others require substantial guidance and supervision.

** Establishment of ground rules provides frame of reference for self-discipline and teacher-student cooperation.

** Leadership and followership are encouraged through variety of learning opportunities.

** Differentiation of assignments provide for individual differences.

Within the same frame of reference, it must be stated that stifling will continue until:

** Teachers recognize that students can develop self-direction and learn on their own.

** Administrators and supervisors foster cooperation and endeavor to utilize better staff abilities.

** Administrators assume responsibility for curriculum direction and leadership.

** Learning opportunities are developed that stimulate individual study and independent research.

** Teachers become curriculum-oriented and understand the total perspective of the learning situation.

** School situation becomes viable and the democratic processes are provided.

We can not predict the career needs of youngsters five to ten years in the future, yet teachers can aid them in developing the skills, attitudes, and understandings--concepts, facts, generalizations--that will better enable them to face the UNKNOWN in a more realistic manner.

FLEXIBLE SCHEDULING

A vital concern to the team teaching innovation is the concept of flexible scheduling. This connotes much more than the re-arrangement of a few classes or the reshuffling of bodies to assure the conventional 1:25 ratio. This is the type of scheduling that permits large groups, small groups, and individuals to interact in a variety of learning circumstances.

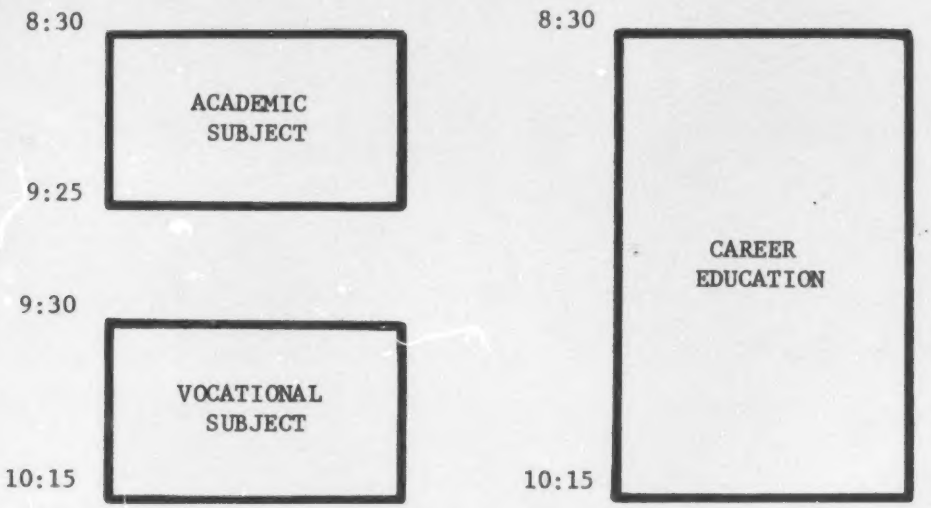
It is no longer imperative that teachers conduct five classes a day for five days a week. A schedule that fosters large-group presentations can provide additional time for teachers to plan more adequately a variety of learning experiences progressing from the SIMPLE to the COMPLEX and from the CONCRETE to the ABSTRACT.

Modular scheduling divides instructional periods into various lengths--15, 20, 30, 45, 60, 90 or 120 minutes--depending upon the need and the learning framework. In place of the rigid schedule planned for one semester or for the entire year, there can be periodic groupings and regroupings of students to provide a variety of learning experiences that improve the purposes and methods of instruction. Class periods need not be organized within a uniform time limit, but may be modified to provide for flexible utilization and improvement of both teacher competencies and school facilities.

The variable or flexible scheduling aspect of team teaching has usually been reduced to a perfunctory role as part of the team teaching relationship; however, it comprises the basic framework within which the other essential components function. Computerized scheduling is not always equivalent to variable or flexible scheduling, since a highly mechanized process may contribute to an inflexibly flexibly arranged schedule for teachers and students. The value of flexible scheduling

is that changes can be initiated on a daily or weekly principle as the need for variability in learning activities develop.

A degree of flexibility can be easily achieved by implementing BLOCK SCHEDULING for teachers in related subjects as part of the CAREER EDUCATION concept. Academic subjects and vocational subjects, for example, could be scheduled for two consecutive periods of fifty-five minutes or a block of time emphasizing career education as follows:



This block of time will provide opportunity for large-group, small group and independent study situations. Several modifications of this example are possible and can be varied and expanded within the flexible thinking of the individual school.

It is also possible to initiate flexible scheduling by having two teachers in academic subjects, for example, share a block of time each morning (or afternoon). Large-group presentation can be made on Monday and Thursday, small-group discussion on Tuesday, and independent study on Wednesday and Friday. While the youngsters are involved in study,

the teachers can plan; having conferences with individuals through which advanced and developmental study are discussed should be an important aspect of this planning.

The ideal situation will be the structuring of a flexible schedule that will vary modules from day to day. Since an increasing volume of literature is now available on modular scheduling, it is beyond the scope of this chapter to discuss these finite factors. Administrative creativity and effort will determine the extent and success of flexible scheduling.

EVALUATION

Central to the implementation and success of team teaching is the process of evaluation. The new role is to make certain that evaluation becomes a more integral aspect of the total teaching-learning process. The construction of performance objectives and individualized learning activities provides a more tangible bases on which to measure student progress and to determine the effectiveness of the teaching-learning relationship.

There must be the departure from evaluation based solely on tests that are basically a competitive guessing contest between the teacher and the students. In this contest, the unwritten law consists of the students trying to guess what will be on the test so they can memorize the answers while the teacher endeavors to provide unsuspected questions that add insult to injury, thus perpetuating a travesty of learning.

The above paragraph does not belittle the vital role to be served by tests; it merely recognizes the planning, thought, and structure that are absent from many teacher-made tests. A good measuring device can not be "haphazardously structured" and provide reliable means for

charting student learning and progress. Periodic testing is an important part of team teaching; however, it is only one criterion and should not be the only end to measuring the learning process.

The so-called recitation, oral quiz or teacher-student probing should be abandoned under improved team teaching procedures, since such methods are quite unreliable and invalid, and result in a waste of valuable time.

The multi-purpose grade that combines a potpourri of factors: achievement, attitude, attendance, neatness, self-control, and responsibility--factors that are not necessarily related--should also be abandoned and these factors reported separately.

The tendency to compare one member of the class with other members should be minimized. All evaluation must focus upon the individual accomplishment and progress and not be compared with that of his peers for grade distribution. The statistical data of the group are vital for assessing all students' progress and should be available if knowledge of group achievement is necessary. The understanding of individual differences enhances a comprehension of group relationships. Teachers must endeavor to accept students as individuals rather than as part and parcel of slow, average or high ability groups.

With a variety of means of evaluation available, there should be decreasing reliance upon pencil-and-paper, teacher-made tests, and more concern for the total concept of evaluation and measurement techniques.

SUMMARY

It must be thoroughly established that large-group instruction, small-group discussion, and individual study are interrelated. They are three components of the team teaching procedure, and must be faithfully

recognized as such. Once this recognition becomes apparent, the resultant step is to realize that it is easier to organize and to structure the large-group presentation than the other two phases. Much structure must then be provided for large-group activities.

The structure can proceed from the LGI to the SGD to the IS with less and less structuring at each succeeding level. The process of proceeding from the general to the specific is not an innovation for teachers. As teachers and students acquire confidence and ability in small-group discussions and independent study, these two components will influence the nature and scope of the large-group presentation. A learning cycle will then proceed not only from the GENERAL to the PARTICULAR but from the PARTICULAR to the GENERAL--from DEDUCTION to INDUCTION to DEDUCTION. The result will be a more meaningful, self-directed teaching-learning structure.

One of the innovative means for improved utilization of the multi-media approach is the TEAM TEACHING concept. Team Teaching is not only an organization for improvement of instruction, but represents a cooperative effort on the part of two or more teachers to use complementary strengths to plan, prepare, present, and evaluate learning activities in a regular and more systematic manner.

Team teaching embodies four basic components--large-group presentation or instruction, small-group discussion, independent study, and flexible scheduling. The entire structure is predicated upon extensive use of a variety of procedures, materials and equipment: Books, pamphlets, tapes, records, films, filmstrips, overhead projector, film and filmstrip projectors, tape recorders, television sets and other media that provide

opportunities for diversified learning activities.

A flexible curriculum requires plasticity in instructional procedures and a variable learning environment. Team teaching is one method by which such expectancies can be accomplished. Career Education implementation can be enhanced through the variability provided by the interrelated components of team teaching.

Effective team teaching experiences provide a logical framework for the gradual evolvement and implementation of a differentiated staffing pattern. Differentiated staffing, however, is a refinement of team teaching in that roles and responsibilities of the personnel are usually arranged in a career sequence. Auxiliary personnel or teaching aides handle non-teaching activities, while the professionally-prepared personnel direct their efforts toward the instructional program and the improvement of the teaching-learning relationship.

The Career Education concept promotes a differentiated and diversified approach both for teachers and students. Students require the educational preparation for pursuing a selected career, whereas, the teachers require a system by which appropriate progress can be achieved through career advancement opportunities. A fundamental concern is to provide an organized means by which outstanding teachers can receive both personal satisfaction and compensation related to quality of performance.

V

CLUSTERING OF CAREER EDUCATION

The emerging concept of Career Education has imposed upon elementary and secondary educational institutions a formidable challenge to restructure, refine, and modernize the overall approach to teaching and learning. One of the foremost concerns is thus the organization of an instructional or learning system that will provide for the following aspects:

1. Construction of performance objectives and meaningful instructional activities related to the interests and abilities of all students.

2. Provision for success-oriented learning through the application of individualization and team teaching procedures.

3. Coordination of learning activities which facilitate interrelationships between and among educational and occupational information, processes, and skills so that career development becomes an essential purpose of education.

4. Development of learning opportunities which promote a variety of experiences and stress the elements of diagnosis, appropriate placement, continuous progress, and recycling of instruction.

5. Formulation of evaluation procedures which provide for continuous assessment and self-evaluation on the part of students so that progress and accomplishments can be more objectively and precisely measured.

6. Establishment of administrative procedures to assure concentrated inservice education programs and professional growth sessions for developing management and instructional objectives, organizing instructional staff for optimum deployment and utilization, structuring appropriate instructional activities for students, and formulating staff evaluation guidelines so that a gradual transition toward a more variable and meaningful career development program can be implemented.

These preceding aspects are not only vital to the full development and implementation of CAREER EDUCATION but constitute essential elements for the systematic improvement of contemporary education. Any approach to curricular modification should focus on two viable educational components: ACADEMIC and OCCUPATIONAL/VOCATIONAL program of studies. The concept of Career Education provides the challenge to coordinate the two major program components into an instructional system designed to develop and prepare more realistically students for a technologically and occupationally oriented society. This approach completely eliminates the GENERAL EDUCATION program due to the assumed position that high school graduates who have undergone such educational experiences have been either poorly prepared or inadequately exposed to learning opportunities which lead to entry-level employment possibilities or further educational experiences. This assumption also places upon elementary teachers a greater responsibility to implement an instructional program which relates academic and occupational education. Better educational experiences initiated at the elementary school level should facilitate greater career development at the senior high school level. An articulated learning program represents an imperative for improving present educational opportunities through the comprehensive nature of CAREER EDUCATION.

The concepts of the various subject areas serve as a curricular reference for the refinement of instructional objectives into appropriate performance criteria. Sequencing of learning activities provides the source for the unification of academic and occupational education under the career development goal.

CLUSTER CONCEPT

The concern for the organization of an instructional or learning system represents a most formidable challenge to all curriculum planners as they attempt to conceptualize the interworkings of Career Education. One of the most recognized and acceptable approaches to curriculum innovation has been the CLUSTER CONCEPT as it relates to broad occupational areas.

Operational Framework. A cluster has been designated as a broad and flexible occupational grouping into which various jobs or positions are classified according to functions, characteristics, skill requirements, training and task prerequisites, qualifications, and performance criteria. The United States Office of Education has developed an occupational classification framework which includes the following fifteen clusters:

Agri-Business and Natural Resources
Business and Office Occupations
Communications and Media
Construction
Consumer and Homemaking
Environmental Control
Fine Arts and Humanities
Health
Hospitality and Recreation
Manufacturing
Marine Science
Marketing and Distribution
Personal Services
Public Services
Transportation

These fifteen occupational clusters serve an appropriate frame of reference for necessary curricular activities associated with the development of a CAREER EDUCATION INSTRUCTIONAL SYSTEM. This instructional or learning system should provide for these basic qualities which further expand the six aspects indicated at the beginning of the chapter.

CURRICULUM STRUCTURE--Identification of concepts in the fundamental subject and occupational cluster areas. These concepts form the basic learning structure for developing a comprehensive system of Career Education. All ideas, facts, processes, and skills are related to this conceptual framework and the achievement of stated performance criteria or objectives. Tentative generalizations and knowledge are derived from the learning activities associated with the designated concepts. The following diagram conveys the structure referred to in the preceding statements:

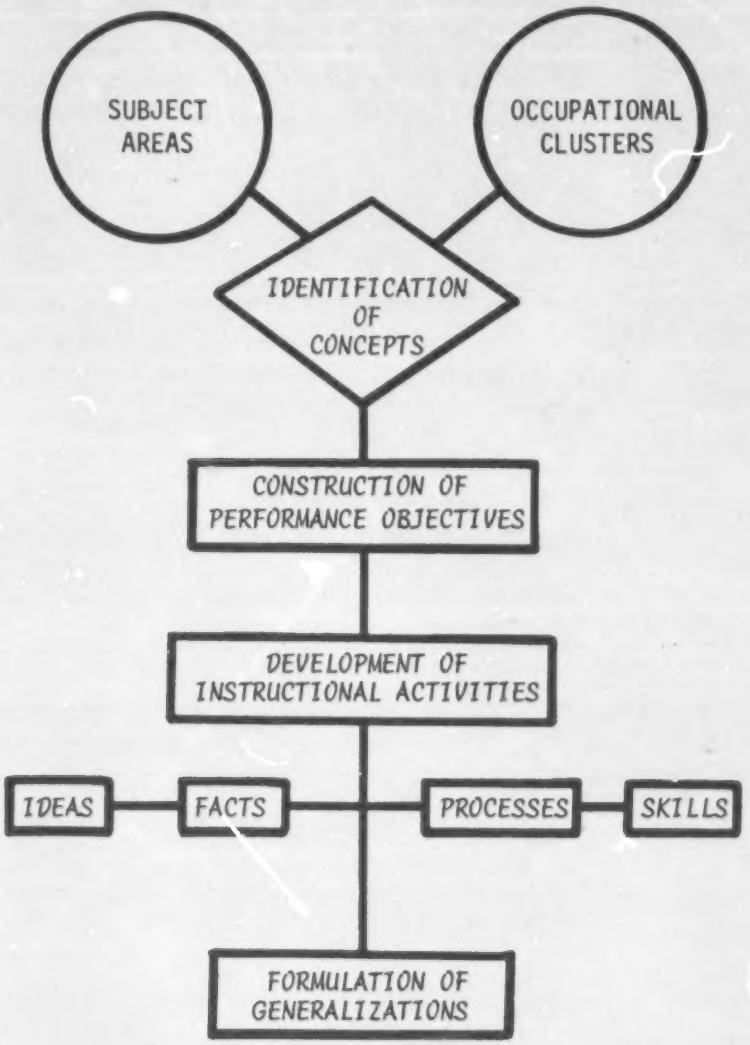


Figure 1

CURRICULUM STRUCTURE

RLB

INFORMATION PROCESSING--The term learning activities comprises that part of instruction which pertains directly to students regarding the processing and acquisition of information. These activities and experiences provide students with appropriate opportunities to acquire basic information and skills in English language arts, Mathematics, Science, Social Studies, Health and Physical Development, Fine Arts, and Human Relations. The OCCUPATIONAL CLUSTERS provide a framework through which the information from the subject areas can be related to the occupational or world of work. The initial educational goal is to have students acquire the basic communicative, computational, scientific, psychomotor, cultural, and interpersonal concepts while relating them to the realistic aspects of the occupationally and economically oriented society. Figure 2 which follows on the next page conveys the interrelations between educational and occupational information, skills, and performances.

YOUTH ORGANIZATIONS--One of the major attributes of vocational education has been the successful development of student organizations as an integral part of the instructional program. The evolving concept of Career Education necessitates that youth organizations and their purposes become an infused component. The purposes involving leadership development, career understanding, civic awareness, and social competence are essential to the full career development of every student. The present vocational student organizations should provide the structure for the development of a number of youth organizations pertaining to selected occupational clusters. These student organizations should be initiated at the upper middle school or junior high school level so as to provide the bases from which cooperative and responsible activities can be implemented throughout the secondary school experiences. One factor is most imperative: Youth organization activities must be related to the instructional and learning program. To consider these groups as extracurricular clubs constitutes a self-defeating concept; they must become part and parcel of the learning situation. Figure 3 establishes a frame of reference from which the purposes and activities of the five vocational student organizations can be transformed into the instructional program as a model for forming the Youth Career Organizations. The ultimate outcome would be the development of a Career Education Council to serve as the student organization as part of the Career Education System. The various youth organizations can be structured to relate to any or all of the fifteen occupational clusters.

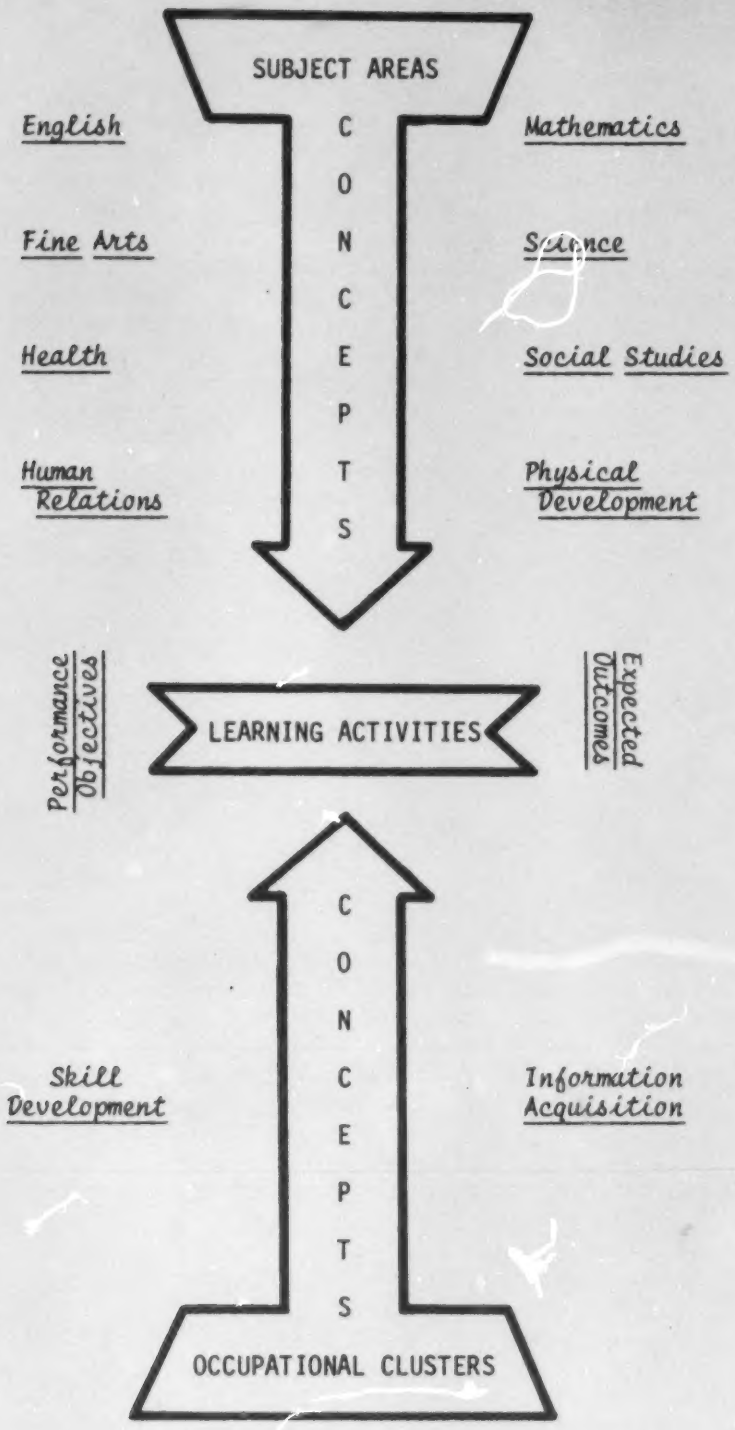


Figure 2

INFORMATION PROCESSING AND SKILL ACQUISITION

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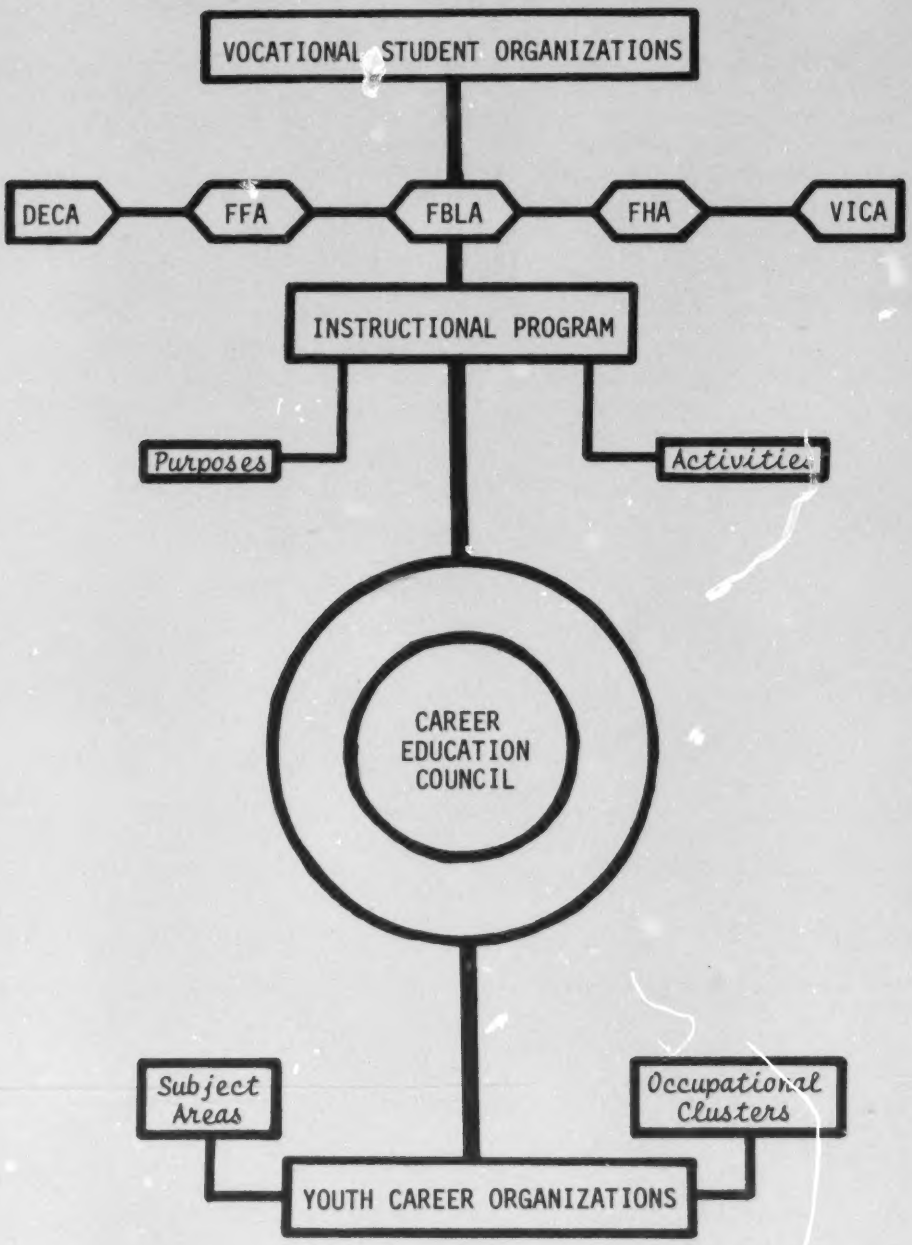

Figure 3

EVOLVING YOUTH ORGANIZATION STRUCTURE

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Guidance Services. The development of a curriculum structure, the structuring of a design for processing information, and the designing of a framework for the evolvement of youth career organizations are vital procedures for the full implementation of a Career Education Instructional System. Such a system requires one other valuable aspect for an interacting approach--career guidance services.

The emphasis on occupational clusters as a vital determinant of the instructional program denotes that guidance and counseling are essential tools for providing students with information and options as to career opportunities and eventually more intelligent choices and job placement. This point of view indicates that all guidance and counseling activities, especially at the secondary school level, should be career oriented. Career oriented guidance must be student centered rather than program directed, such as college preparatory, vocational, or general education development. The interests, abilities, and avowed aspirations of individual students constitute the focal points for the learning activities. At the elementary school level, guidance and counseling services assist the students with appropriate adaptation to the learning environment so that the basic educational information and skills are thoroughly acquired. These are prerequisites for the facilitating aspects of Career Education.

Effective Career Education requires a revitalization of the guidance, counseling, and placement services. Our contemporary society mandates that guidance personnel be both occupationally and academically prepared. This preparation is fundamental to the concern for career education services for all students. Guidance personnel with a wide variety of experiences should facilitate the accomplishment of this objective.

A comprehensive approach to career development stresses the need for personnel who have had successful experiences outside the field of education--experiences in business, industry, or labor are essential. In present situations where personnel have not had appropriate occupational/vocational experiences, there must be alternatives for persons with such experiences to become a part of the career guidance and placement team.

The following functions have been recommended as fundamental to career guidance and placement programs as part of the TEAM TEACHING approach to Career Education:

** Accept career development as a vital aspect of education.

** Plan with administrators and teachers as to overall instructional program which provides for the interrelations of educational and occupational information and skills.

** Assist teachers to realize and implement the values of student self-directiveness and individualization of instruction.

** Participate in the planning and assessment of the instructional program as part of the team or interdisciplinary organization.

** Provide teachers with information about group dynamics so that the instructional approach emphasizes successful learning experiences for all students.

** Share with teachers techniques for the diagnosis of student abilities and learning problems as well as procedures for continuous and systematic evaluation of student performance and progress.

** Assist students with the development of career choices and alternatives through a review of their interests, abilities, and job aspirations.

** Provide students and teachers with occupational information so that all learning activities become career oriented wherever possible.

** Counsel students as to career opportunities and part-time or full-time job placement as part of cooperative work study arrangements.

** Provide all students with relevant and meaningful guidance through both individual and group settings.

** Relate career education objectives to the business and industrial community in order to solicit full cooperation to bridge the gap between the classroom and the occupational world.

** Provide for job placement and follow-up services as integral aspects of the career guidance and counseling program.

** Foster the concept that elementary and secondary education provides the foundation for entry level employment or further education necessary for technical or professional employment.

** Share with administrators and teachers the responsibility for modifying the instructional program to assure that career awareness, orientation, exploration, and job preparation become expected outcomes.

CAREER DEVELOPMENT

The Career Education Instructional System provides a basic career development sequence through which all students progress. This sequence has been consistently identified as being comprised of four related phases. These four essential and related phases are designated as Career Awareness, Career Orientation, Career Exploration, and Career Preparation as they encompass kindergarten through the twelfth grade. A fifth phase, Career Specialization or Professional Preparation, applies to career education beyond the confines of the secondary schools. The various phases are represented in Figure 4 on the next page.

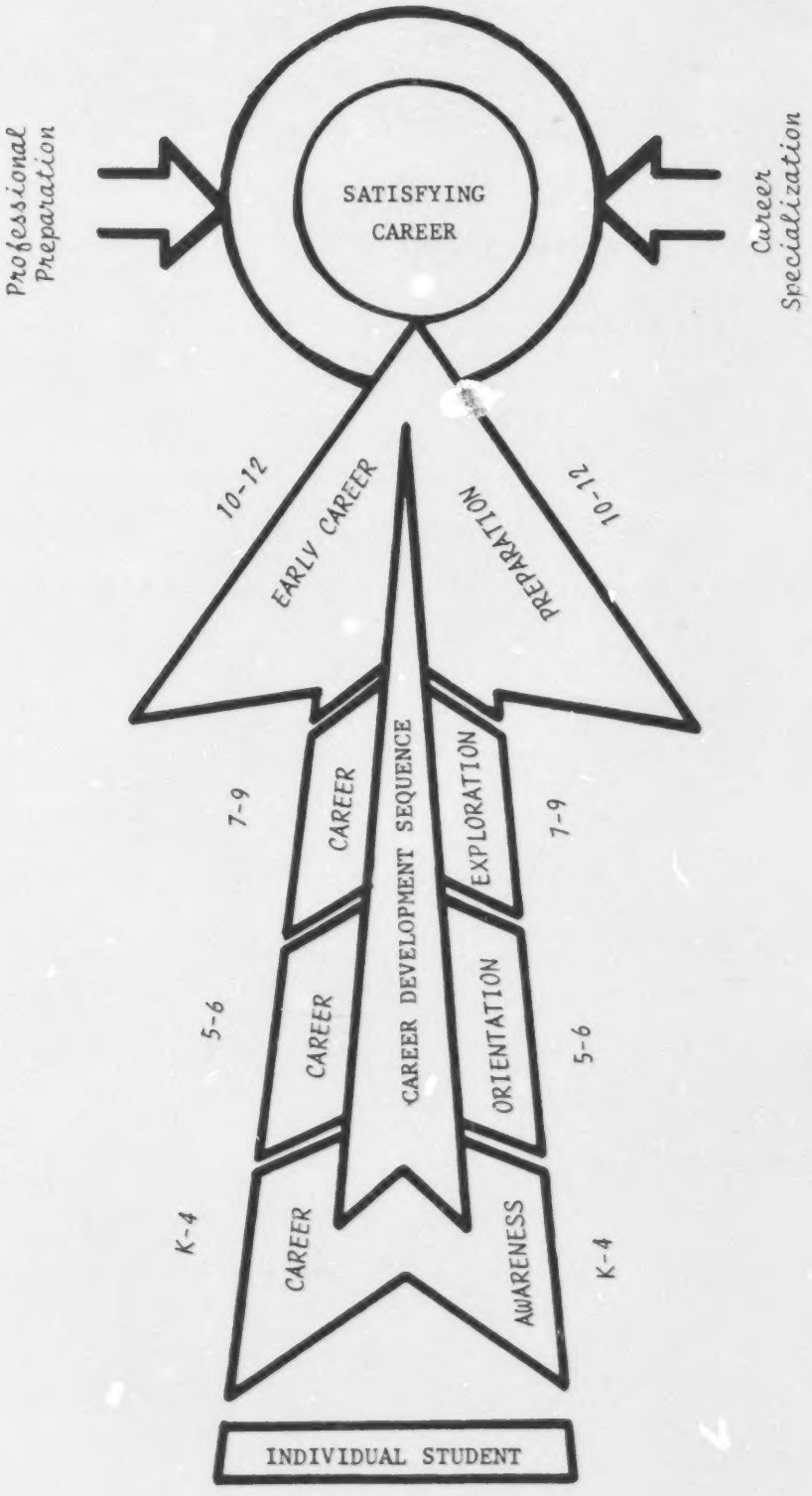

Figure 4

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CAREER EDUCATION PHASES

A Career Education Instructional System, with emphasis on career development as an articulating and unifying goal of education, requires extensive coordination and commitment on the part of all educational personnel if Career Education is to become more than a conceptual scheme. It is thus conceivable that career development can be the central focal point of the instructional system which unifies an articulated learning sequence from kindergarten through grade twelve and beyond to technical specialization and professional preparation.

Career Development represents a continuous process which begins in the elementary years and extends into the occupational life of the individual. One of the essential aspects of this process are the outcomes which are measured in terms of performances. The concepts associated with the career development phases constitute the reference for the construction of the performance objectives necessary for the full implementation of Career Education. These concepts have to be systematically identified from the subject areas and from the appropriate occupational clusters in order to provide a comprehensive and interdisciplinary approach. The ultimate goal of career development is to provide all students with learning activities and experiences which enable them to be better prepared to make more intelligent decisions about their career future. The more variable the exposure and the options available, the better should be the preparation and decision making.

Categories of Goals. Eight elements have been categorized as possible references for the structuring of overall goals as part of the career development sequence of Career Education. These categories are described as follows on the next page.

ATTITUDES and APPRECIATIONS--The formation of positive feelings and thoughts about work, preparation for a career, and the selection of a career and possible job placement should be vital to the educational achievement of every individual. Appreciation for both educational knowledge and skills along with occupational preparation must be acquired as part of the planned instructional activities. Respect for the contribution of each individual to the economic community, regardless of the job affiliated with a particular occupational cluster, is essential to both information processing and skill acquisition.

CAREER AWARENESS--The development of a personal and social interest as to the significance and contribution of work through study of occupational clusters and exposure to various jobs and careers. An expanding viewpoint should be developed as students identify relationships among careers within the community, acquire a knowledge of broad career areas, determine interdependence of careers, select occupational clusters for exploration, and identify abilities necessary to pursue a career choice.

DECISION-MAKING SKILLS--Learning activities structured and provided for students should include concrete experiences relative to cause and effect relationships and an awareness of the possible consequences of one's actions. These initial activities are introduced in the early elementary years and refined throughout the secondary level. Problem solving relating to career development should be introduced through identification of the stages or steps of the decision making process:

1. Identifying the problem
2. Determining all possible aspects of the problem
3. Considering alternatives and possible solutions
4. Developing best possible plan for resolving problem
5. Implementing plan
6. Evaluating and modifying plan as needed.

The emphasis on decision-making skills should further enable the students to apply the process as they study various occupational clusters and decide about tentative career alternatives.

ECONOMIC AWARENESS--The study of the nature and organization of the economic system is essential to the appreciation and understanding of the career development theme. The relationship between goods and services within and among the selected clusters, the function of the monetary system, the role of supply and demand, the value of laws and protection to the consumer, the importance of specialization and trade, the role and function of business organizations, and the relations between labor and management--all contribute to a more intelligent citizen and discriminating consumer.

EDUCATIONAL AWARENESS--The study and acquisition of fundamental information and skills should enable students to become more aware of the educational opportunities and career choices. Appropriate learning activities provide exposure to occupations through the cluster concept and relate the educational needs to the requirements for entry-level employment, further educational study, and/or professional preparation. As students progress through the various phases of career development, they move from emphasis on basic skill learning and general occupational awareness and exploration to more specific skill acquisition and study as they relate to career preparation. Subject area concepts facilitate an awareness of the relevancy of information to occupational selection. Learning experiences should be of a concrete and practical nature rather than in the abstract. Learning for learning sake tends to be overly abstract and thus frustrates many youngsters from the beginning day of elementary school to the time they either leave school or manage to endure twelve years of irrelevancy and mediocrity.

FUNDAMENTAL COMPETENCY--In addition to educational and career awareness, it is imperative that students develop both tool and process competencies at an acceptable level of performance. These competencies relate to the essential learning concepts associated with the basic subject areas and the skills derived from general occupational exploration. These fundamental competencies should be acquired by the completion of the ninth year of study. Such attainment prepares the early school leaver with minimal skills and other students with the fundamentals needed to pursue indepth career exploration, select a single occupational cluster for specific preparation, or prepare for further educational study.

MARKETABLE SKILLS--These skills represent those which are necessary for employment. It is rather imperative that the student develop the competencies necessary for job placement and satisfactory performance in the selected occupation. Although marketable skill emphasis pertains to the upper level of the secondary school, the foundation for this stress is laid in the elementary years. Such ideas as cooperation, dependability, punctuality, acceptance of directions, assumption

of responsibility, and development of achievable goals should become integral aspects of the instructional activities. Employability, personal, and social skills represent interactive aspects as part of the career development sequence.

SELF AWARENESS--This category is listed last in alphabetical order; however, it provides the personal frame of reference for the development of the other seven categories. During the course of the career development sequence of the instructional program, students recognize their individual capabilities and limitations, and form self concepts. The value of education is acquired along with manifestation of both interests and individual needs. Personal development through the knowledge of rights and the acceptance of responsibilities is a vital part of career education progress. Exploration of occupational clusters assists students in the realistic assessment of their abilities for further career preparation. The degree of success and confidence realized greatly influences the career choice of each individual.

These preceding eight categories provide the curriculum framework for the identification of fundamental concepts, formulation of goal statements, construction of performance objectives, development of a variety of learning activities, and the formation of evaluation procedures for measuring progress and providing feedback for continuous career education improvement.

INSTRUCTIONAL PHASES

The preceding sections of this chapter have provided the curricular framework for the career development sequence of Career Education with coordination of subject areas through the occupational cluster concept and the reference of eight related categories. This section, however, summarily describes the four basic phases which constitute the career development sequence.

Career Awareness. This initial phase of the career development sequence embraces the traditional levels from kindergarten through fourth grade, or may be designated Phase I if part of a nongraded or

continuous progress learning system. The basic overriding goal is the awareness of both the personal (social) and economic significance of work. Each student begins to realize his interests and discovers his intellectual capabilities. Through the learning activities to develop fundamental competencies and economic awareness--relationship between and among goods and services, generalized and simplified aspects of three-to-five occupational clusters are provided as part of the responsibility to foster constructive attitudes and appreciations toward the world of work. As part of the overall educational responsibility to provide a comprehensive approach to career development elements, rudimentary aspects of the decision-making process should be introduced through concrete learning situations.

A number of developmental concepts have been recommended as part of Phase I, once the overall goal statements have been drafted in respect to the eight categories previously described. Some of these identified concepts to be developed through the instructional program are as follows:

1. AWARENESS and ACCEPTANCE of SELF is BASIC to EDUCATIONAL PROGRESS

2. INDIVIDUALS DIFFER ACCORDING to ABILITIES, INTERESTS, and LEARNING NEEDS

3. INDIVIDUALS ASSUME RESPONSIBILITY for LEARNING SUCCESS

4. OCCUPATIONAL STUDY is VITAL to CAREER AWARENESS

5. OCCUPATIONS FULFILL a PERSONAL, SOCIAL, and ECONOMIC FUNCTION

6. CAREER DEVELOPMENT REQUIRES INTERACTION of both EDUCATION and OCCUPATIONAL CLUSTER ACTIVITIES

7. CAREER EXPOSURE is ESSENTIAL for DEVELOPMENT of DIGNITY and RESPECT for WORK

8. SUCCESSFUL LEARNING EXPERIENCES are BASIC to CAREER INTERESTS and DECISION MAKING

9. ACQUISITION of FUNDAMENTAL COMPETENCIES is NECESSARY for SUCCESSFUL CAREER DEVELOPMENT

10. COMMUNITY RESOURCES ENABLE STUDENTS to ACQUIRE KNOWLEDGE of AVAILABLE OCCUPATIONS

These concepts thus convey the general purpose of the career awareness phase. The major departure from the traditional elementary instructional program is that the development of basic skills and the acquisition of information are meaningfully related to the concepts appropriate to various jobs associated with the designated occupational clusters.

Of equal importance, however, are the performance objectives which are constructed to determine the outcomes to be derived. These objectives provide the reference for the learning activities which lead to a better understanding of the concepts. This overall structure is set forth in Figure 1 and assures a valid relationship. Three examples of possible performance objectives are as follows:

1. Each student should be able to name three occupations in the school and community and to describe at least two important functions of each.

2. Each student should be able to list the fifteen occupational clusters and identify at least one person in the community associated with each cluster.

3. All students should be able to express in a one-page essay their career interests as they relate to their abilities and achievements.

The learning activities, designed to assure a degree of success for every student, are thus structured to improve overall student

performance by unifying instruction and relating basic subject area concepts to the occupational cluster aspects of the career development sequence. All learning activities should be of such quality as to foster constructive attitudes toward occupations and the world of work, and to establish a firm base for productive citizenship.

Career Orientation. This phase of the career development sequence is part and parcel of the preceding and succeeding phases. Phase II represents the juncture where the categories of goals and the career education concepts begin to emerge as integral and viable elements of the instructional program. This phase may either represent the continued sequence of the elementary school or the initial level of the middle school. Regardless of the administrative division embracing Phase II of the career development sequence, it is imperative that the categories of goals and the concepts introduced under Phase I--Career Awareness--be related to the learning activities of all students.

The curriculum framework set forth in Figure 1 provides the design for relating concepts of the subject areas to the career development concepts identified in the first phase. Encompassing this structure should be the eight categories of goals, since they serve as the central focal point from which appropriate performance goals, concepts, performance objectives, learning activities, and evaluative techniques can be more thoroughly constructed.

Career orientation expands upon the career awareness phase of career development through learning opportunities which further relate self-awareness, educational awareness, attitudes and appreciations on the part of students to the elements of economic and career awareness. Continuous emphasis is placed on the growth of decision-making skills

as part of fundamental competency evolvement. The individualized nature of Phases I and II is essential for the establishment of the acceptable foundation from which each student can ascend the career development ladder toward eventual and successful preparation for a satisfying career.

Career Exploration. This phase of career development represents the critical aspect in the education of students. The students at the upper levels of the middle school and at the junior high school level are in a transitional period from the information acquisition, skill development, and awareness facets of the self-contained elementary grades to the information processing, skill acquisition, and exploratory dimensions of the secondary grades. The concept of CAREER EDUCATION attempts to incorporate a different relationship as part of this transitional period. The following opportunities should be provided:

1. Identification and realization of abilities, interests, values, and career aspirations.

2. Exploration and differentiation between and among the fifteen occupational clusters for potential career fields and future choices.

3. Comparison of abilities and interests with families of occupations and specific jobs within selected occupational clusters.

4. Realization of the contribution and importance of occupational areas and technology to our economic way of life.

5. Determination of the information and skills necessary for performing selected occupations and/or as prerequisites for further educational study necessary for a career choice.

6. Acquisition of concepts relative to subject areas and occupational clusters as part of career development sequence.

7. Identification of educational requirement necessary for the pursuit of a broad occupational area through individual and group guidance and counseling sessions.

8. Refinement of information and skills through exploratory activities which facilitate the expansion of the eight basic categories of goals.

9. Relevancy to the occupational world through simulated activities, hands-on experiences, field trips, and concept-oriented study.

10. Expansion of the individualized learning approach so that a success-oriented philosophy permeates all phases of career education.

11. Assessment of abilities, performances, interests, attitudes, and values in preparation for the selection of specific occupational cluster study or indepth exploration at the senior high school level as part of Early Career Preparation.

Inasmuch as Phase III, the Exploration Phase, constitutes the pivotal point between career orientation and early career preparation, the next chapter will be devoted to a more comprehensive description of career exploration as most critical to the career development sequence. It is at this level that students should be provided with exposure to activities which will appreciably influence their decisions as to educational directions at the senior high school level and beyond. These activities, however, should expand the opportunities for making career decisions and not restrict students to the tracking process prevalent in junior high and upper levels of the middle school. Career exploration must provide the opportunity for a much more flexible approach toward improvement of instruction and the development of generalized occupational skills.

Early Career Preparation. This phase of the career development sequence has been divided into two interrelated levels. Level I

embraces grades 9-10 of the senior high school or the initial aspect of Phase IV as part of a continuous progress approach to career development. There is stress on indepth exploration of three-to-five occupational clusters; emphasis on acquisition of marketable skills along with the necessary study of related concepts and information in the appropriate subject areas; and the scheduling of guidance and counseling activities so that students are more aware of their capabilities to pursue career choices or further education. This level is also critical to the potential dropouts or early school leavers. These students will need to be identified and learning activities structured so as to prepare them with minimal marketable skills to enter lower levels of employment. The option for these individuals to re-enter the career development sequence must also be provided.

Level II of Phase IV pertains specifically to grades 11-12 or the latter aspect of a continuous progress approach at the senior high school level. During these levels, students should be able to pursue a number of options: (1) Final career preparation in an occupational cluster or specific job study within the selected cluster; (2) further indepth exploration in more than a single occupational cluster should career decision be uncertain; (3) preparation in a selected occupation which may relate to more than a single cluster; (4) provision for part-time or full-time job placement as part of work study or cooperative education experiences; (5) selection of subject areas and learning activities which appropriately prepare them for postsecondary study at institutions of their choice; (6) acquisition of specific educational and occupational competencies at an acceptable

level of performance; and (7) the provision for career guidance and placement services to determine abilities and interests, select available occupational offerings, and the follow-up of all graduates and early school leavers to provide feedback for further improvement of the career development sequence.

Although the aspects of Early Career Preparation are primarily applicable to students at the senior high school level, there is also relevancy to career training for adults who have either left school or who require the refinement of skills or re-tooling. Once the educational framework has been implemented, it should be adaptable to the career preparation of all persons.

It should be thoroughly emphasized that the multitude of learning alternatives associated with Phase IV must be structured to take place in other facilities or locations outside the traditional secondary school building. The vocational-technical centers provide the opportunity for indepth exploration and specific job preparation within available occupational clusters; community business and industrial enterprises accord part-time employment stations through cooperative education arrangements; community organizations also provide support for the emerging concept of career education; postsecondary institutions offer either technical or academic study as part of advanced placement options; and public agencies provide resources for the comprehensive approach to career development.

Summary. The career development sequence of Career Education represents an innovative yet untested concept on the American educational scene. Academic study and college preparation have constituted the modus operandi for secondary education; vocational education has been

the acceptable program for students who have not adapted to academic study or else have found the traditional instructional program irrelevant, monotonous, and meaningless.

Career Education conveys to all persons the urgency to implement a meaningful and individualized learning system on a kindergarten through grade twelve continuum. This learning system provides for the development of every student through the interrelatedness of educational information and skill acquisition with exploration and indepth study of various occupations as part of the cluster concept. The extent to which the career development sequence provides successful learning experiences for all students greatly influences and improves the postsecondary activities necessary for either career specialization or professional preparation.

Of even greater significance is the career preparation for the majority of students. The success of these students can appreciably alter the course of American education and possibly lead to a reduction in some of the more pronounced social ills--dropouts, crime, welfare, and unemployment. Although public education can not be expected to transform society, it can be held accountable for the performance and career preparation of its most valuable products, the young citizenry.

VI

DESIGN FOR CAREER EXPLORATION PHASE

The previous chapter established various categories of goals, basic concepts, and the phases comprising the career development sequence of Career Education. There was further indication that the Career Exploration phase, encompassing grades 7-9 or the appropriate performance level of a continuous progress program, was most critical to the career development sequence emphasizing an interrelationship between subject area concepts and the concepts relative to the fifteen identifiable occupational clusters. This chapter provides a management design for the systematic development and implementation of the Career Exploration phase associated with either the junior high school or the upper level of the middle school. Although designed specifically for the third phase of the career development sequence, it can be easily modified and expanded to provide an articulated K-12 approach.

DESIGN STAGES

If career education is to be undertaken and successfully accomplished, there are a series of independent variables that must be incorporated to assure viable career educational outcomes. The responsibility for assuring that career education becomes a reality rests with responsible management planning. There are a series of action steps that can be undertaken to guide one through the process of program development. This process can best be organized through a systems approach to assure that all elements or variables are included.

The design consists of three major stages as schematically represented in Figure 1 on the next page. Each stage is considered as interacting with the other two stages to provide an interrelated system. The figure presents

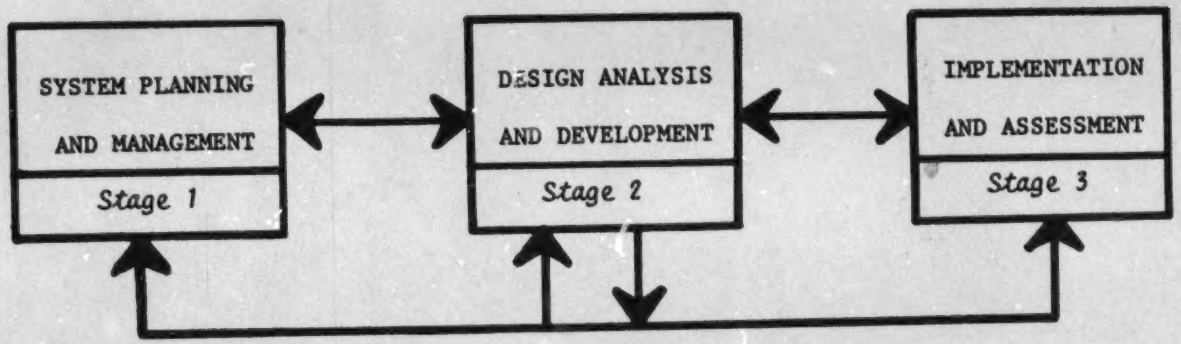

Figure 1

MAJOR STAGES OF THE DESIGN

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these three stages, separated logically from left to right, according to the developmental sequence in which they occur. A simplified version of the cause-and-effect relationship is indicated by the arrows connecting the components. Each of the major stages will be discussed in general terms, in the order in which they appear; then a more comprehensive analysis will be made of each step or component within each major stage.

First Stage. Stage 1 in the design is called SYSTEM PLANNING AND MANAGEMENT. This stage pertains to those start-up or lead-in activities that must be planned and organized before the detailed tasks of designing and developing the actual career education instructional system can begin. It consists of a conceptual plan for developing performance goals; the concurrent selection of support staff and school-community career education advisory groups, the latter to serve as liaison between school and community; and the development and validation of performance goals. This stage is one of the most important in the Career Education Instructional System for it provides for the organization of the appropriate interactive network of interested groups to function in program development. The System Planning and Management stage sets the format for employing a career education systems approach to developing instruction. During this stage, attention is directed to detailing what is required of the system, selecting staff and advisory personnel--technical and non-technical, and developing and validating performance goals.

Second Stage. Stage 2 of the design in Figure 1 is termed DESIGN ANALYSIS AND DEVELOPMENT. This stage defines the techniques necessary for specifying performance objectives and the format of instructional materials. As shown in Figure 1, a two-way arrow connecting Stages 1

and 2 indicates that information flows both ways. The System Planning and Mangement stage specifies the framework within the Design Analysis and Development stage must proceed. The needed elements within the Design Analysis and Development stage are likely to call for shifts in System Planning and Management due to the information needed to develop an instructional program in career education. After the development materials are implemented in the classroom and initial feedback is obtained, changes may be required in Stage 1 and/or Stage 2.

Third Stage. Stage 3 in Figure 1 pertains to IMPLEMENTATION AND ASSESSMENT procedures. During this stage the career education materials developing during Stage 2 are implemented and field tested. The necessary career education content, media, and instructional methodology are evaluated to determine the extent to which they achieve the stated purposes. The corrective iteration of all aspects of planning, management, design analysis, development, and evaluation is continued until all stated student outcomes are achieved.

With the foregoing brief overview of the major stages of the model, specific components and processes of each of the three stages will now be discussed step by step.

SYSTEM PLANNING AND MANAGEMENT

The scheme set forth in Figure 2 on the following page conveys the five major components and steps affiliated with the first stage of the design--System Planning and Management.

Conceptual Plan. The first component of Stage 1, the Conceptual Plan for Developing Performance Goals, provides the developmental foundation upon which to construct a program of career education for the Career Exploration Phase. Within this phase, it furnishes the basis for the development of career education experiences for each grade level; serves to refocus the content of language arts, social studies, mathematics, and science into career clusters; and provides a structure for integrating the four content subject areas with the general categories of goals, or student outcomes, which have been defined for the career development sequence.

The contents of language arts, social studies, mathematics, and science have been traditionally taught in isolation from one another and, in most cases, the adopted textbooks have served to define and limit the content of the course. There is frequently repetition of the concepts being taught across similar disciplines. This duplication of teaching and learning effort has resulted in a learning system of somewhat lower quality than is desired in our schools. There has also been relatively little unity in attempting to make the content more relevant to the individual's need to sustain a successful livelihood.

Through the use of this design, it is intended that eight general categories of goals for career development education will serve as a unifying theme upon which performance goals can be written that focus the subject-matter content into a career cluster. It should further serve as a mechanism for integrating subject matter across the four disciplines, and thus result

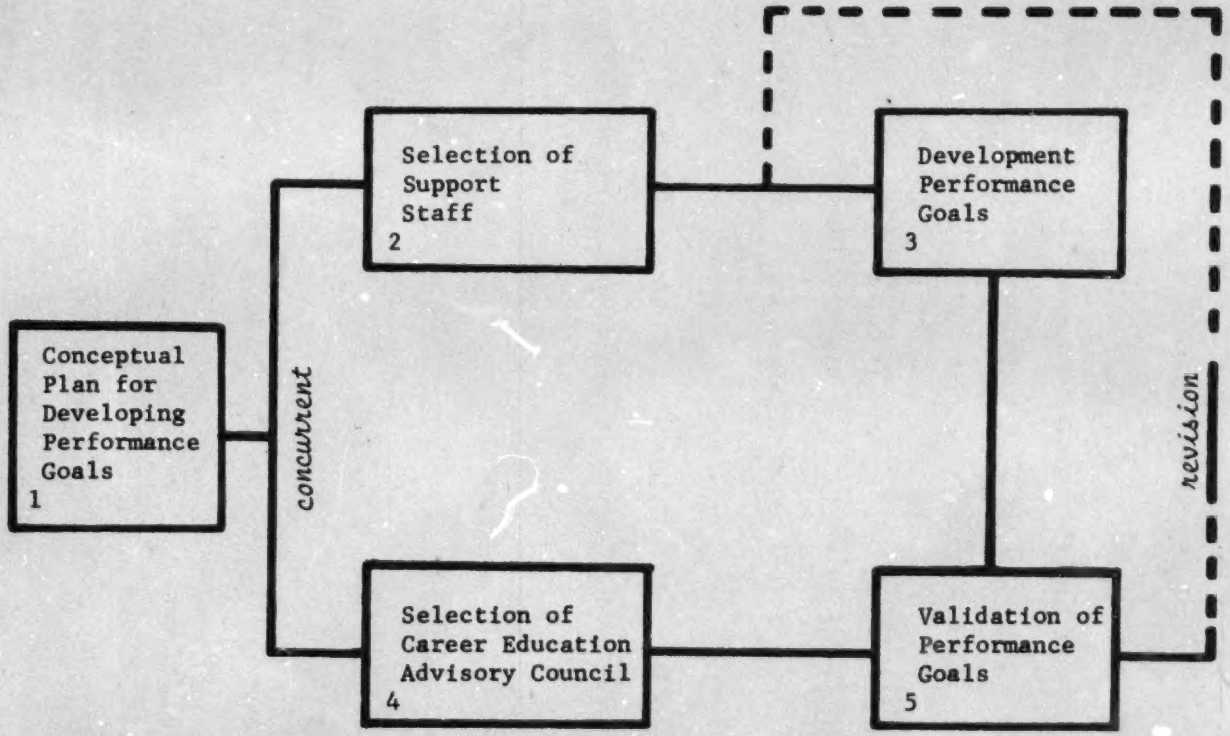

Figure 2

MAJOR FIRST STAGE COMPONENTS
SYSTEM PLANNING AND MANAGEMENT

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in an interdisciplinary approach to subject matter attainment. The eight general categories of goals that act as the unifying elements for career development sequence were described in the preceding chapter. They are as follows: Attitudes, Career Awareness, Decision-Making Skills, Economic Awareness, Educational Awareness, Fundamental Competency, Marketable Skills, and Self Awareness.

Scope. The information contained in Table 1 on the next page presents the broad scope of the program that is to integrate appropriate concepts into the four major subject areas. During the junior high grades, as shown on Table 1, the student is provided the opportunity to strengthen and/or develp concepts, skills, and attitudes concerning the career clusters by refocusing the content of language arts, social studies, mathematics, and science and the career clusters. This refocusing of content is a process that begins in grades 7 and 8, during which the student is oriented to all fifteen clusters through the four subject-matter areas that have been integrated into an interdisciplinary approach using career education concepts as the unifying theme. During this same period of time, the student is afforded the opportunity to learn the range of concepts, skills, and attitudes inherent in the career areas within each of the fifteen broad clusters.

It is anticipated that, at the end of grade 8, each student with proper career guidance will be able to select three broad clusters in which to study in greater depth during grade 9, that is, the Career Exploration in Depth segment of the Career Exploration phase of a Career Education program.

Grade 9 emphasizes the continuation of the interdisciplinary approach using career education concepts as the theme for unification. It also

TABLE 1

SCOPE OF THE CAREER EXPLORATION PROGRAM

GRADES 7-8	GRADE 9
CAREER ORIENTATION AND INITIAL	CAREER EXPLORATION IN DEPTH
MAJOR EMPHASES: 1-Students are to learn the content of the four subject matter areas through an interdisciplinary approach using career education concepts as the unifying theme. 2-Students are to learn the range of concepts, skills, and attitudes inherent in the various areas within the fifteen (15) clusters. 3-Each student is to select three clusters from the fifteen by the end of grade 8, for study in depth during grade 9.	*MAJOR EMPHASES:* 1-Students will continue to learn the content of the four subject-matter areas through an interdisciplinary approach using career education concepts as the unifying theme. 2-Each student is to learn, in depth, the range of concepts, skills, and attitudes inherent in the various areas within the end of grade 8. 3-Students are to begin the attainment of marketable skills. 4-Each student is to select one cluster in which to specialize during grades 10-12.

allows for exploring in depth the concepts, skills, and attitudes related to the three clusters chosen by the student. Grade 9 signifies the beginning of the development of competencies that lead to marketable or entry-level skills. Since some students leave or drop out of school during grade 9, it is important that such students possess some type of entry-level skill, even thought it is at a minimal level.

For the students who continue their education, successful completion of grade 9 should result in a relatively stable career choice with respect to the fifteen broad clusters. It is intended that, at the end of the learning experiences furnished in grade 9, a rational decision can be made--the selection of a cluster for study in depth during grades 10-12; however, the total program should remain flexible enough to allow a student to change from one cluster to another during grades 10-12.

Sequence of Career Concept Emphasis. As has been shown in Table 1, Scope of the Career Exploration Program for Grades 7-9, the major emphases for this program depend upon eight concepts or general categories of goals that unify the disciplines. Each broad goal category should be emphasized throughout the Career Exploration Phase; however, the degree of emphasis is not the same for each grade or performance level.

Table 2 presents the levels during which each concept should be developed and/or emphasized. Since each of the eight concepts, or general categories of goals, should have been introduced in the lower grades, Table 2 only shows the specific level during which each concept should be further developed and/or emphasized. In some cases, however, it may also be necessary to introduce these concepts, particulary if there is a school in which a concept has not been previously utilized as a unifying theme.

TABLE 2

SEQUENCE OF CAREER CONCEPT EMPHASIS

CONCEPTS OR GENERAL CATEGORIES OF GOALS	GRADE LEVEL		
	INTRODUCE	DEVELOP	EMPHASIZE
Career Awareness	K-6	7-8	9
Self Awareness	K-6		7-9
Educational Awareness	K-6	7-8	9
Attitudes	K-6		7-9
Economic Awareness	4-6	7-8	9
Fundamental Competencey	K-6	7-8	9
Decision-Making Skills	3-6		7-9
Marketable Skills		7-8	9

The Performance Goal. With the scope of the program established, the actual refocusing and integration of career education concepts into the content of the four subject areas is the most complex task; however, with the translation of content into performance goals the task is somewhat minimized. Performance goals are general goal statements that serve to define the limits of instruction as well as the expectations for students to attain. Step 3--Development of Performance Goals--provides a detailed discussion on performance goals.

Some type of structure to be followed is necessary to refocus the content of the four subject areas into a cluster or clusters, and to integrate career education concepts with the four content areas.

Developing Performance Goals. Figure 3 on the next page presents a three dimensional cubic structure to serve as a guide for developing performance

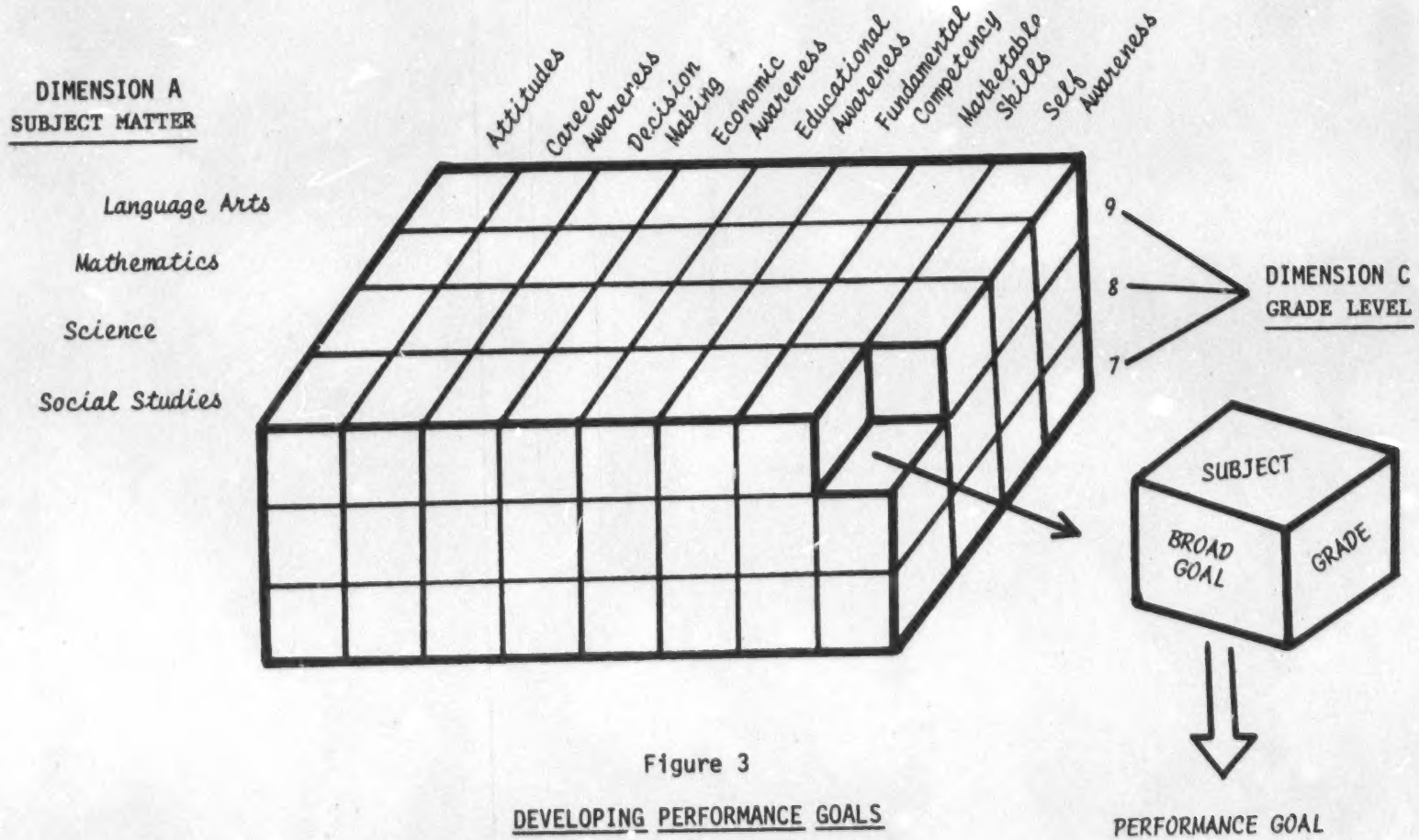

Figure 3

DEVELOPING PERFORMANCE GOALS

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goals for any cluster and for integrating these cluster goals with the performance goals established across the subject-matter areas of language arts, social studies, mathematics, and science. It further provides for a hierarchy of performance goals to be structured from grade 7 through grade 9.

This three-dimensional structure illustrates an interrelationship, in the form of performance goals, between one or more of the general categories of goals for a career cluster, the various content or subject-matter areas, and the grade levels.

> Dimension A lists the subject-matter areas of social studies, language arts, science, and mathematics. It is possible to substitute subjects from any grade level; however, in this model we are concerned only with the four listed.
>
> Dimension B consists of eight concepts or general categories of goals that are common to all career clusters. These eight general categories of goals form what may be considered the organizing elements for the disciplines in an emerging career education program. They were somewhat described in the preceding chapter.

The goals have been identified from USOE developmental projects, career education literature, RCA developmental projects, and selected state departments of instruction that have established career education programs. These categories of goals are to serve as the unifying theme across the four content areas and are to refocus the content into a single cluster or any selected number of clusters.

> Dimension C provides for each of the performance goals to be sequenced into a hierarchy--that is, sequentially arranged to correspond to the 7-9 grade levels or appropriate performance level.

The structure represented in Figure 3 now contains performance goals, arranged by grade level for each content area and for each of the clusters being developed. These performance goals, both for the content areas and the clusters being developed, are based on the eight broad general categories for the career cluster. At this point a third filtering or screening process becomes necessary. Within each grade level, the individual cluster performance goals are analyzed and placed in the most appropriate subject-matter area. The total group of performance goals is then analyzed for commonality of goals. Should two or more performance goals appear to be the same, then it may become necessary to rewrite it until it can be generally agreed upon by development personnel. This new and distilled group of goals is then sequenced within each grade level.

The process of identifying and developing performance goals that integrate career education concepts into existing course content is quite complex, requiring the expertise of a wide range of qualified personnel acting as a team. Step 2 outlines such a team of individuals to develop an integrated program, while step 4 provides for an advisory council to give direction to the career education program.

Support Staff. Selection of Support Staff, the second component of the System Planning and Management stage, provides for a consortium of individuals representative of the four subject-matter areas, including counselors, curriculum specialists, and personnel knowledgeable in the various clusters. The purpose of this step is to begin restructuring the traditional curriculum presently existing in the four content areas by selecting the staff to implement the Conceptual Plan for Developing Performance Goals.

When a staff or group writes performance goals, they focus upon goals that students must attain. Since these goals must be worthwhile and viable

for students, the selection of support staff is very crucial for a successful program. With the selection of support staff, the next step is to utilize the conceptual plan outlined in step 1 to develop performance goals.

Development of Performance Goals. The third component, Development of Performance Goals, provides the most logical step toward the development of performance objectives. As indicated previously in the design, the goals serve to define the limits of instruction and to state, broadly, the expectations held for a given program of instruction--in this case, the four content areas and any particular cluster. Such broad, general goal statements, performance goals, are relatively easy to write since they lack the precise terms of performance objectives, neither specifying the conditions under which performance is to occur, nor the criteria, or performance standard, by which behavior is to be measured. There are four primary advantages derived from developing performance objectives:

1. Determining the goals tends to make content-oriented instructors and educators aware of describing their content areas in terms of outcomes rather than processes.
2. Generating performance goals allows for the development of an accountability system.
3. Developing performance goals provides the means to eliminate duplicate content dissemination in the instructional process.
4. Developing performance goals provide laymen with a tool to help them assess what is taught in a career education program.

Any number of performance goals may be developed when refocusing subject matter into a cluster. The actual number of goals to be developed is not readily identifiable by any formula since there is no measure of precision that can be applied. Once a list of performance goals has been developed, program planners should ask the question, "Does this list of

performance goals represent the broad areas of skills, understandings, and attitudes that students must have upon completion of this program?"

The following are some representative examples of performance goals that could be derived using the conceptual plan of Figure 3.

Example 1: Marketable Skills (General goal category)

Performance Goal--The student will be able to identify sources of employment and understand the processes necessary to secure a job.

Performance Goal--The student will be able to communicate effectively in both writing and speaking.

Performance Goal--The student will have an understanding of both the English and Metric systems of measurement.

Example 2: Self Awareness (General goal category)

Performance Goal--The student will be able to identify personal attributes and characteristics necessary to maintain a job.

Performance Goal--The student will be able to identify and empathize with others when they are confronted with two or more undesirable and conflicting alternatives.

Performance Goal--The student will understand a career cluster's requirements and evaluate his interests and abilities in light of these requirements.

Example 3: Decision-Making Skills (General goal category)

Performance Goal--The student will develop the ability to weigh both short-and long-range consequences of different alternatives to given problems.

Performance Goal--The student will be able to read, organize, and draw conclusions from problem statements.

Example 4: Economic Awareness (General goal category)

Performance Goal--The student will be able to develop the concept of management, of financial resources (learning, spending, borrowing, and saving).

Performance Goal--The student will be able to understand the concepts of economic potential as they relate to different careers--e.g., the cost of entering a field as related to future expected income.

Example 5: Beginning Competency (General goal category)

Performance Goal--The student will develop skills as used to collect data needed in solving problems.

Performance Goal--The student will develop and apply the basic computational skills in arithmetic (mathematics).

Advisory Council. The fourth component of Stage 1, Selection of Career Education Advisory Council, provides for a group of individuals that will be representative of all facets of community life. These individuals are to react to the development and implementation of the career education system for the Exploration Phase and serve as an interface with community needs.

It is suggested that this council consist of members from the following groups:

Industry and Business
Public and Private Education
Parents
Higher Education
Multi-Cultural
Students

As shown in Figure 2, steps 2 and 4 occur concurrently since both represent crucial steps in program development. Both groups--the support staff and the advisory council--are actively involved in developing and implementing needed goals within the school system.

Validation. The last component of Stage 1, the Validation of Performance Goals, provides a means for aligning the developed performance goals to correspond with community needs. The Career Education Advisory Council must serve as the final jury in determining the following points:

(a) Relevance of the performance goals to business and industry.

(b) Relevance of the program to each student's future needs.

(c) Relevance of the program in serving multi-cultural needs.

(d) Relevance of the program in serving parents' needs.

The council, after reviewing the performance goals, may make recommendations for adding, deleting, or modifying goals. Should this be the case, then these revisions are included in the total set of developed performance goals.

Summary. These five components or steps of the System Planning and Management stage provide a framework and sequence by which performance goals for instructional purposes are identified and validated. The second stage of the model, Design Analysis and Development, provides for a continuation of steps to follow in developing the performance objectives, the format of instructional materials, and the methodology to be employed to satisfy the requirements of Stage 1.

DESIGN ANALYSIS AND DEVELOPMENT

The major components and the continuing steps of the second major stage of the design for the junior high and upper levels of the middle school are presented in Figure 4 on the next page.

Derivation of Performance Objectives. With the development of performance goals in the System Planning and Management stage, the sixth step is to write performance objectives. This writing of performance objectives constitutes a continuation of steps within the model; furthermore, it is the first component of the second stage. Deriving performance objectives is one of the most important elements in the program since it involves writing performance objectives based upon the already developed and validated performance goals. As stated previously, performance goals are broad statements of desired student outcomes; however, in contrast,

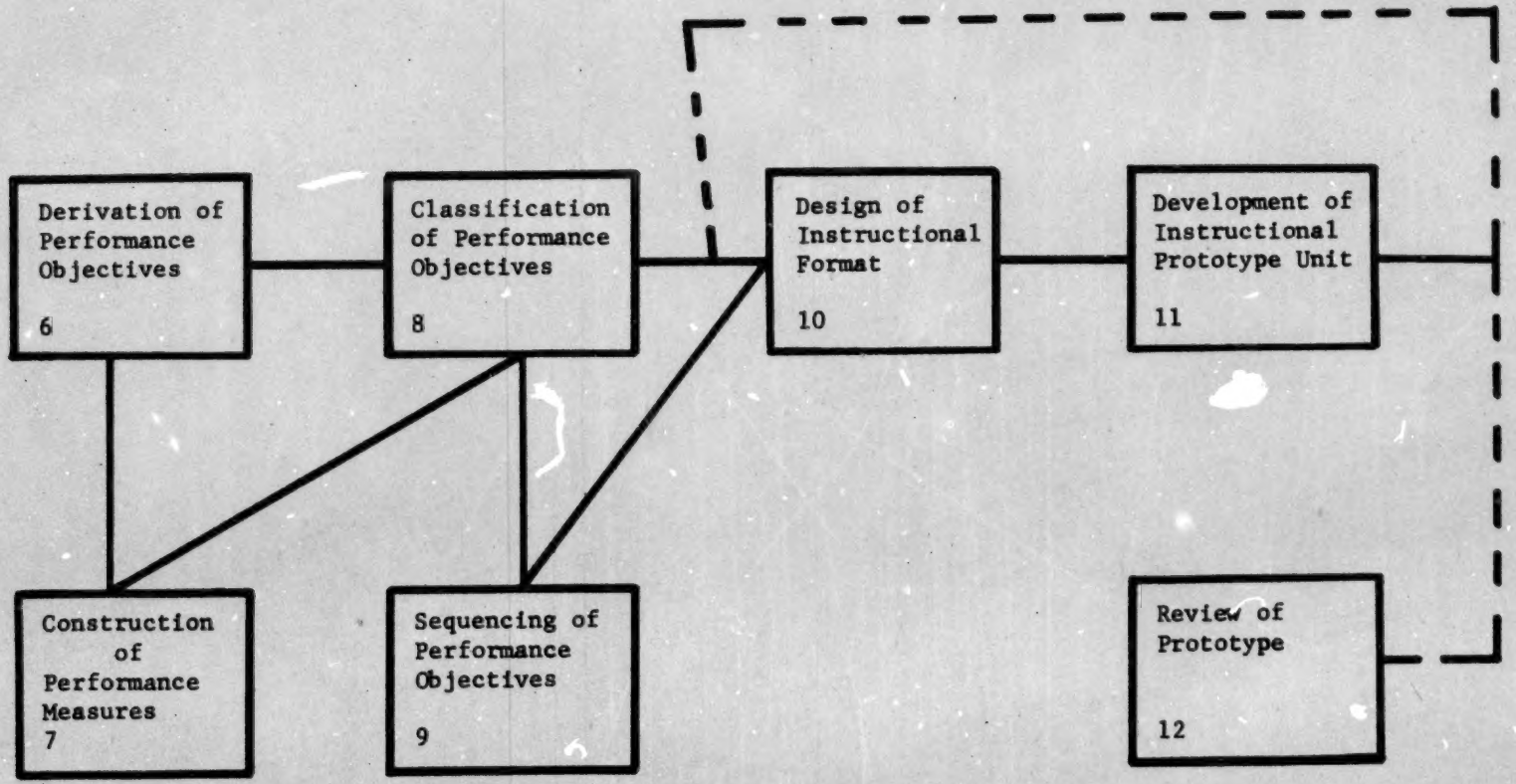

Figure 4

MAJOR SECOND STAGE COMPONENTS
DESIGN ANALYSIS AND DEVELOPMENT

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behavioral objectives are precisely stated goals that students are to attain after completing an instructional sequence. Many classroom teachers have used objectives in their classes for several years although, in some cases, this may constitute a totally new concept in classroom management.

Definition. The term performance objective may have several meanings to educators; however, in this career education design for grade 7-9, the following definition is used:

> A performance objective for instructional purposes is defined as a communication device which states (1) a preci e description of what behavior the learner (student) is expected to demonstrate after completing an instructional sequence. (2) under what conditions and/or limitations the learner will demonstrate the desired behavior, and (3) the standard for acceptable behavior to be demonstrated by the learner. It might be simply said that a performance objective provides a precise description of a testing situation.

Advantages. Developing performance objectives helps teachers and curriculum planners to identify desired student behaviors that will indicate the attainment of content--concepts, knowledge, skills, and attitudes. It is anticipated that, through involvement in writing this type of performance objective, the support staff (curriculum writers, instructors, content specialists, and others) will evaluate individually or collectively what they are trying to do through the instructional process. If other programs are good predictors, then a higher degree of relevancy and effectiveness will occur as a result of using performance objectives. Using these objectives does not mean that teachers must abolish current teaching practices and start over again; rather, performance objectives add one very significant step to existing practices by helping teachers do a more effective job of planning and managing instruction. Since performance objectives are to be stated in observable terms

(measurable), evaluation or assessment is a built-in component of planning and managing.

Basic Elements. In deriving performance objectives, the person writing should insure that each objective contains, at a minimum, the following elements before they are acceptable for the career education program:

(a) States precisely what it is that a student will do or perform when demonstrating mastery of a task.

(b) Under what conditions the student will demonstrate mastery of a task.

(c) To what extent or degree of quality the student will have to demonstrate as proof of task mastery.

Components. Written performance objectives are predetermined, precise statements of desired student behaviors that explain the testing situation. Each performance objective should consist of three parts, as described in the succeeding statements.

1. Performance Statement. The performance statement describes who will perform and what one will perform in a manner that can be observed or measured. The performance must be stated in precise verbs that are not vague and open to interpretation. Such verbs as "know" and "understand" are not acceptable in a performance statement, whereas they are acceptable for performance goals.

2. Conditions. Conditions describe the givens and/or restrictions necessary to exclude acts that will not be accepted as evidence that the student has achieved the objective. The conditions normally describe where and what the student may use when demonstrating task mastery, usually indicating the reference materials and equipment permitted, the location of the task, and any other conditions that might affect the students's performance.

3. Criteria of Acceptance. The criteria of acceptance specify how well the student is expected to perform a task. Degree of excellence, maximum number of errors permitted, sequence of performance, and time are a few examples of criteria.

There are many other factors involved in a good career education instructional program, but precise performance objectives derived from general or performance goal statements can markedly help most teachers to enhance the quality of teaching, and students to more effectively guide their energies in attaining the goals.

Construction of Performance Measures. Immediately following the development of each performance objective, a means to assess the performance specified in the objective should be developed as shown in step 7 of Figure 4. By developing these measures for assessing performance at the same time that the performance objectives are written, ambiguities or gaps in the objectives are eliminated.

The standards of acceptablility stated in the objective serve as the bases for writing assessment instruments appropriate to each objective. There is no set method for determining the type of tests to be administered or the number of items to be written per performance objective. In some cases, paper-pencil tests are appropriate for measuring the performance; in other cases, checklists are adequate; and, in others, various combinations of testing techniques are preferable. The main concern is whether or not the measuring instrument adequately measures the performance indicated in the objective. With the development of measuring instruments we are able to:

(a) determine to what extent the students are attaining stated goals;

(b) test assumptions upon which performance objectives have been developed; and

(c) validate the supporting instructional activities and techniques.

Classification. One last and important aspect of writing performance objectives is the classification of behavior for each objective as indicated in Step 8. Without some means to classify behavior there is usually a tendency to develop low level or trivial objectives requiring closely related skills of only one type--that is, either all thought or cognitive skills, all psychomotor or physical skills, or all attitudinal or affective skills. To nullify this tendency a classification scheme should be utilized to categorize each objective. Although the Conceptual Plan for Developing Performance Goals is structured within a framework of general categories of goals, there is a tendency, especially in the content areas, to focus primarily on the low level cognitive or thought skills.

To insure that performance objectives are comprehensive and properly sequenced for instructional and learning purposes, some analyzing and ordering technique is necessary. The first task (Step 6) was to identify the behaviors (performance objectives) that would demonstrate the attainment of certain concepts. Gagne (1967) has suggested that complex behaviors are invariably composed of simpler tasks, and that attainment of these tasks is necessary before the more complex behavior can be demonstrated. His work has involved analyzing behaviors into a hierarchy proceeding from simple to complex. Walbesser and others have also utilized a hierarchy for developing objectives. A system or taxonomy should be used in order to assure proper sequencing.

Sequencing. To be sufficient, the classification process as shown in Step 9 must also aid the sequencing of performance objectives for instructional purposes. During this activity the question "What should the student learn first?" continually arises. From experience one knows

course content can be structured and sequenced such that the student learns at an optimum rate. It is further known that all students do not learn in the same manner or at the same rate; therefore, incorporating these two factors into curriculum development means that the preparation of instructional materials will be a more complex task.

In all existing content areas of language arts, social studies, mathematics, and science the subject matter is organized into some sequence based upon some theory of human learning for the dual purpose of teaching and learning. It is known that certain concepts are prerequisites to others, as in mathematics. Similarly, in science many principles are derived from the analysis and synthesis of simpler concepts; and, in history, most content is organized where chronology is thought to be basic to the field; thus, the resulting sequence is isomorphic with the order of historical events.

Within this design, the Guide for Developing Performance Goals specified that performance goals be developed that allow for the integration of career education concepts with major academic course content, and that performance objectives be derived from these goals that will identify the behaviors that demonstrate the attainment of concepts. But it is the support staff (see step 1 of Stage 1) that will actually develop these performance goals, derive the performance objectives, and sequence the resulting objectives into a hierarchy. To avoid oversimplifying the behavior sequencing process, the staff should use a hierarchial scheme to increase the effectiveness of the process.

Performance objectives may initially be written and sequenced as follows: (1) concrete to abstract, (2) simple to complex, (3) chronological, or (4) experientially familiar to experientially different. These four methods are to serve only as examples since they do not represent the totality of ways in which objectives may be sequenced for the learning process.

Probably one of the simpler approaches to the sequencing of performance objectives is for the support staff to view each specific objective in terms of the basic question--"What does the learner need to be able to do before he can perform the task?" Since different support analysts might arrive at different orders, such an inspection should result in an instructional sequence that makes relatively few errors. Naturally, any necessary revision of the sequence of objectives will be an integral part of the implementation and assessment stage of the design. To sequence performance objectives and to analyze complex performance objectives into learning hierarchies may be the hardest job of all when one considers what career education teaching is all about.

Design of Instructional Format. Step 10 refers to designing of the instructional format so as to provide for the inclusion of key elements in the instructional unit. It serves as a guide for curriculum development personnel to follow in formally organizing instructional information. This format includes those elements considered most likely to be effective and efficient in promoting the attainment of the performance objectives and subsequently the goal developed for the career education program.

After the objectives are sequenced, the next logical step is to design a written format which includes the elements most likely to be effective and efficient in promoting the attainment of the performance objective. The following ten basic elements are suggested for inclusion in each teaching-learning unit:

1. Topic Title--a general descriptor of the content or major concepts presented in the unit.

2. Rationale--states the justification for teaching the unit by providing a brief description of the unit; including the type of student population, grade level, and how it relates to careers.

3. Prerequisite Capability--states the entry level requirement(s) for the student to begin the unit.

4. Performance Goal(s)--provides a description of the long-term behavior expected of students, written in general terminology as discussed previously.

5. Performance Objective(s)--provides a description of overt student behaviors to be demonstrated by the student.

6. Pre-assessment Procedures--provides a description of pre-assessment procedures listed for instructor use.

7. Learning Activities--provides an account of the major, planned learning events necessary to attain the objectives and, subsequently, the performance goals. The learning activities are comprised of two types--Teaching-Management Techniques and Student Learning Activities. Teaching-Management Techniques refers to those procedures to be utilized by the instructional staff to implement the performance objectives. The units developed for the career education program will lend themselves to various types of teaching techniques. It is possible for the instructors to be responsible for teaching only the concepts of a single cluster; however, this model allows for the instructors to be responsible for their individual discipline across the total number of clusters operational in their particular school.

8. Resources--lists the supplies, materials, and references necessary for implementation of the unit, such as films, textbooks, charts, people, etc.

9. Optional Activities--identifies the activities of two major categories: (1) activities that are supplementary and that should aid the student in strengthening or reinforcing a weak area, and (2) activities that are enriching and that should provide the student with challenging experiences which lead him to pursue an area of interest.

10. Post-assessment--provides a detailed description of the manner in which the objectives will be measured. This includes any of the methods or combination of methods discussed in step 7 of this model.

Design of Instructional Prototype Unit. At this point, developmental work is begun on the instructional prototype unit as indicated in Step 11. This teaching-learning plan is an instructional unit designed for a period of instruction longer than one class period, usually a week or more. A well designed learning package or unit of instruction that includes, at a minimum, all those career education elements discussed in the previous step, provides the teachers and/or curriculum developers a framework for long-term planning, and assures that they follow a systematic approach to the instructional process.

The sequenced performance objectives for each grade level (7-9) usually form sets of one or more related objectives per performance goal. These sets may form the natural basis for organizing and developing the units of instruction. A good unit should consist of all major assignments (homework and in-class) and provide sufficient information to develop smaller increments of instruction--commonly referred to as daily lesson plans. This teaching-learning package unit is more than a compilation of lesson plans, primarily because of its higher level of generality.

Review of Prototype. The design of Step 12 conveys that after the prototype unit is developed, it is necessary to review it to check the validity of various facets of the unit being developed by the team. This critique of the unit assures the best quality product possible during development and should result in considerable savings in time and expense.

The following outline describes four committees suggested for this purpose and the function of each.

Curriculum Development Review Team--This team should be comprised of various curriculum specialists (behavioral technologists or specialists, specialists in reading levels, learning psychologists, media technologists). Obviously, one curriculum specialist may have expertise in more than one of the areas; consequently, it will not require one individual for each area mentioned. The task will be to check all performance goal statements, performance objectives, classroom management techniques, teaching/learning strategies, and learning activities for sequence and validity.

Interdisciplinary Team--Instructors from the four disciplines and experts from the cluster(s) will form this team. Experts from the cluster(s) could possibly be members of the advisory council or occupational instructors with recent work experience in the particular area. This team's task will be to determine whether or not the content and learning activities of each unit adequately reflect the disciplines involved in objective attainment and to ascertain whether or not the activities are representative of the cluster(s) involved. Should suggestions be made, these would be routed to the developing team for revision and/or discussion.

Minority Advisory Team--This team should be comprised of at least one member of a minority group. Their purpose will be to check the unit for positive and negative biases toward minority cultures. This team also is to make suggestions for improvement.

District Goals Team--This team's specific task will be to check the performance goals and performance objectives for relevancy to the goals and philosophy of each district.

The refinement of the prototype should be more than a token effort on each team's part because career education is a function of the community and should not be left to the discretion of the school. Input from each team should be constructive and result in a product far superior to one developed in isolation, by instructors alone.

After the unit is accepted by the review team it should be prepared for implementation in the classroom. This process is discussed next, in the first step of stage 3.

IMPLEMENTATION AND ASSESSMENT

The diagrams contained in Figure 5 on the following page thus represent the six major components and steps associated with the third and last stage of the design for the Career Exploration Phase.

Implementation of Prototype. When technical and editorial requirements have been satisfied, step 13 indicates that an empirical tryout of the prototype system is required. All pertinent elements of the prototype system must be engaged in a real classroom setting with all real constraints operating on the system. In step 12, Review of Prototype, the unit was evaluated by the various teams; however, only through implementation will the real worth of the product present itself. It is imperative that a pilot study of the prototype unit be undertaken before attempting to implement on a broad scale.

Close observation must be maintained during early tryouts to produce maximum feedback. Early in implementation the learners (students) are instructed to cooperate in this process by identifying any places (elements) that are confusing, uninteresting, ambiguous,

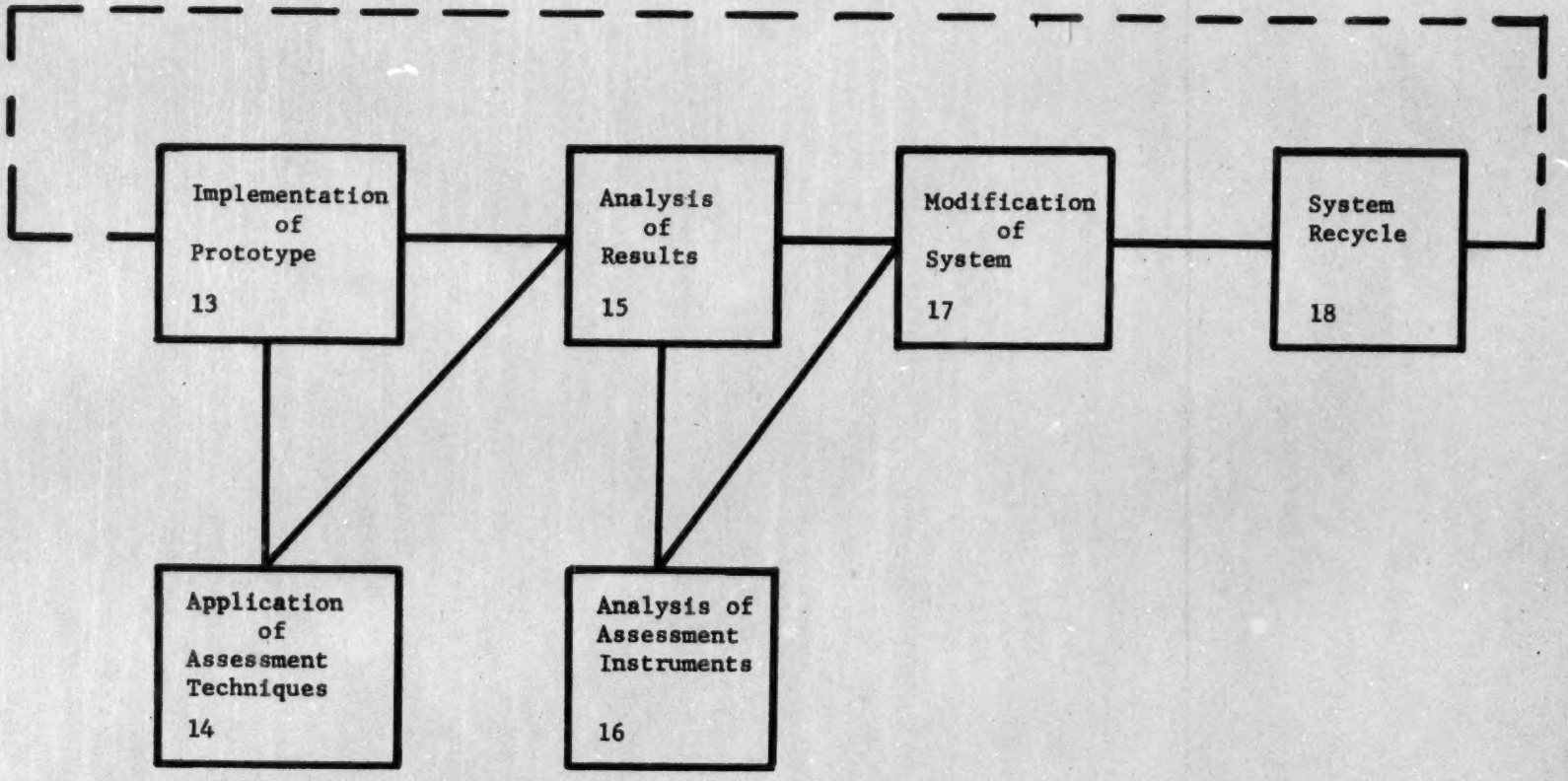

Figure 5

MAJOR THIRD STAGE COMPONENTS
IMPLEMENTATION AND ASSESSMENT

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or too difficult. A formalized record should be kept of the students' comments, and the instructors should keep a record of their own difficulties with the unit from the teaching or instructional point of view.

For those instructors implementing the system who were not involved in developing the units, comprehensive preservice and inservice programs should be conducted in the methodology of the materials developed. It is suggested that a preservice program be conducted in which the following topics would be covered:

1. Orientation to career education
2. Behavioral objectives in teaching
3. Team teaching
    a. Basic communication skills
    b. Group interaction
    c. Leadership roles
    d. Leadership problems
4. Techniques of individualized instruction
5. Success oriented learning.

To expand on the topics presented in the preservice program, a comprehensive inservice program should be conducted throughout the year. This program should include the following topics:

1. Critique of prototype units
2. Development of additional units in additional clusters should early program development not include all clusters
3. Student evaluation using behavioral objectives
4. Student reporting systems.

These suggested topics are considered to be minimal; additional topics may be added as the need arises.

During implementation it is imperative that a comprehensive staff development program be initiated and conducted to assure maximum results. Each school should be held responsible for assuring that a staff development program be conducted.

Application of Assessment Techniques. Step 14 conveys that concurrent with prototype implementation is the application of assessment techniques for each objective as well as possible evaluation of the unit of instruction. The results must be analyzed to ascertain how well the system is accomplishing its objective: Are students attaining the performance objectives? The techniques used to assess the students may be any of those indicated in step 7 or any combination of them. That list, however, is not all encompassing; other techniques are also available.

The two basic types of evaluation are the assessment of process and product. These are initiated after the prototype unit design has been structured and the unit has been put on trial. Restructuring of the units is based on process information, which consists of evidence needed to determine the effectiveness of attaining performance objectives and other information about test administration. Although evidence that determines the extent to which objectives are attained satisfactorily during the trial of the unit. Other information, such as the length of time a learning activity requires and impressionistic information about the trial activities, can be useful in determining how the design may be restructured.

School curriculum and evaluation personnel need to consider what information would cause them to change the unit's original design and then plan a system of information gathering that will obtain the needed

information for evaluation. The use of process information, obtained during implementation and redesign, enables components of a larger program to be constructed.

The second type of assessment is product evaluation. Product evaluation should provide evidence of effectiveness in attaining short-and long-range performance goals. Utilizing both process and product assessment for the instructional system should reveal sources of information for the repeat cycle of revision.

Analysis of Results. The primary purpose of Step 15 is to analyze all data from Step 13--prototype implementation. In conducting this analysis, weaknesses and strengths will be identified in the instructional system. A secondary purpose is to ascertain whether the performance objectives were improperly and/or unrealistically established and require change.

During revision precise analyses of the instructional system are not possible. Generally speaking, many, if not all, the instructional materials, the classroom management routines, and the measuring techniques will be different. Analyses of this type will rely upon the empirical evidence of whether the desired or pre-determined student outcomes were observed. That is, did the learner do what he was supposed to do successfully? Were the classroom management strategies and learning activities adequate? Were the interfaces between various modes of instruction and teaching alternatives functional?

If observation shows faults in these various elements, the question "Why?" must be actively pursued. Often, just noting the fault will bring a new perspective to the instructor or curriculum specialist, resulting in a clearer view of the causal factor(s). In other

circumstances, only a systematic exhaustion of alternative possibilities can bring the desired insights.

Analysis of Assessment Instruments. The basic purpose of Step 16 is to determine whether or not the assessment instruments measure the behaviors being taught in the instructional system. This analysis is similar to that for implementation of the prototype unit. This analysis must ascertain whether the instruments are indeed valid for the designed purpose.

The following criteria are deemed essential in determining the validity of measures such as those required in instructional program development:

(a) Representativeness

(b) Practicality

(c) Fidelity

(d) Accuracy

(e) Reliability

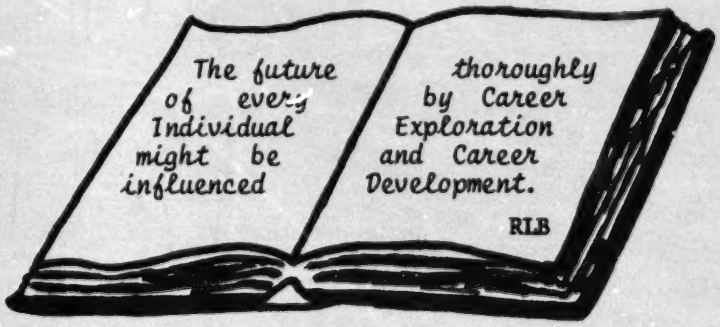
(f) Relevance, in terms of what is supposed to measure

Modification of System. Step 17 is a logical extension of the previous step; its basic purpose is to utilize the feedback from all aspects of the instructional system assessment for modification of the instructional materials. The actual modification will, in some cases, only affect certain elements and, in other cases, it is anticipated that major revisions to all elements might be necessary. After the modifications are completed, the next and final step of the model will be to recycle the system.

System Recycle. The purpose of recycling the system in Step 18 is to provide a process by which the system is re-activated after modification. The total developmental system is recycled until desired student and career education program outcomes are achieved. Recycling is not fixed to any particular step, although secondary cycles may be shown in each stage; rather, it depends upon feedback information obtained throughout the system to designate which step(s) needs modification to result in the best product. When this corrective iteration is complete the career education program for grades 7-9 should be optimum.

SUMMARY

The design presented in this chapter has been developed in three major stages, each consisting of a series of steps to be implemented by local schools in developing a program for integrating career education concepts with major academic courses. The design is not a panacea, but rather a guide to aid in developing curricular materials and, subsequently, a good program in career education at the middle or junior high grades.



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CAREER EDUCATION

The desire to earn a living
is frequently fraught with misgiving.

The school has a role to fulfill
a creditable education to instill.

It has been brought to the surface
that learning to earn is quite a lucrative purpose.

The Challenge confronts the educational domain
to provide the leadership in this refrain.

Education in its public sense serves everyone
based on the responsibility of consent.

It becomes a total educational objective
to provide substance for the occupationally reflective.

The DPI has established a positive priority
to educate all youth in the Delaware society.

To overly converse about occupational education
appreciably forestalls necessary implementation.

It should be a goal not to find fault
but to coordinate a constructive assault.

The objective is to pursue the position
and minimize the verbal rendition.

Provide the guidelines and direction
Career Education will cement a worthwhile connection.

Signed by the collaborators of productivity
who prefer to be designated as anonomity.

RLB